Gleanings in Bee Culture

VOL. XLI. JUNE 1, 1913. NO. 11.

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Gleanings in Bee Culture

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Editorial

HONEY-CROP CONDITIONS.

The reports that have been coming from the white-clover districts of the country have been very flattering indeed. Heavy rains early in the spring, warm weather, sunshine, and more rain, have made it look as if there might be a big crop of clover honey. Even if a drouth should come from now on, we don't see how it could possibly prevent securing a fair yield of clover.

Further reports from California, as indicated in our California department, show that the season will probably be an almost entire failure in that State.

The alfalfa regions will probably yield their usual quota of honey. The southern part of the country will likewise have a fair yield.

OUR COVER PICTURE.

Our cover picture for this issue shows a part of the apiary of R. N. Gidley, at Lakeside, Canterbury, N. Z., as mentioned in the article by E. G. Ward, on another page. In many ways American beekeepers may learn a great deal from their neighbors in New Zealand. The latter are facing many of the problems that we are facing in this country, and carrying on to a great extent the same kind of work. They are progressive and up to date. The ten-frame hive of Langstroth dimensions is pretty well standardized in New Zealand—a fact which we wish might also be said of this country.

Any American beekeeper might well be proud of this apiary, bearing as it does the stamp of up-to-date businesslike methods. Our next issue will contain further particulars.

There is a law on the statute-books of New Zealand making it possible to fine a beekeeper who persists in neglecting to attend to diseased bees. From the Auckland *Weekly News* of November 28, sent us by one of our subscribers, Mr. Robert Black, we learn that Mr. G. V. Westbrooke, the inspector, reported that one beekeeper, having failed to destroy or treat diseased bees after receiving notice to do so, was fined by the magistrate three pounds—that is, about $15.00.

THE TIME TO SPRAY TO AVOID KILLING BEES.

Seldom do we find a larger amount of valuable information on this subject, in a small amount of space, than is given in the *American Bee Journal* for May, page 151, by Mr. Frank Rauchfuss, of Denver. Among other things he presents is the statement made by Prof. Gillette, the entomologist of Colorado. He says:

> When the codling moth begins to appear about the time of full bloom, they do not begin to lay eggs until the majority of the apples in the orchard are one-half an inch in diameter; when they are ¾ of an inch they are laid freely. As soon as the little apples lose their fuzzy coverings the moths lay their eggs very largely upon the cheek of the apple, but *never in the blossom*. Later they find their hiding-place in the blossom end of the apple. After the blossoms have fallen and the apples have attained a little size, *is the time to spray and not before*.

A good many up-to-date fruit-growers have the idea that spraying for the codling moth should begin just as the petals begin to fall. But this will catch some bees, as different varieties of apples mature at different times, and there will be early and late blossoms on even the same tree. If the fruit-grower will follow Prof. Gillette's recommendation he will avoid all possible danger of interfering with the interests of the beekeeper, and at the same time look to his own interests. Spraying at the wrong time wastes material and time.

BIG FIELD DAY AND CONVENTION AT AMHERST APICULTURAL SCHOOL IN MASSACHUSETTS.

On page 326 of last issue we spoke of the big field day and convention that is to be held at the Massachusetts Apicultural School, Amherst, on June 11 and 12. We had not intended to be present and participate in this field-day work; but pressure from Dr. Burton N. Gates, in charge of the school, finally decided us to go; in fact, we felt that we could not afford to miss it, considering the efforts that Dr. Gates has put forth to make this meet a success. In a letter just received from him to-day, among other things he writes:

> *Mr. E. R. Root:*—Besides yourself, Mr. Morley Pettit has promised to come. It is possible that Dr. Phillips may drop in, although he is not definitely provided for. He was here last year. There will be

eight or ten other speakers from throughout New England.

One session will be devoted to the discussion of the brood diseases of bees, their treatment and prevention, during which a prominent feature will be the discussion of the transportation of bees in combless packages, of which I have previously written your company. A number have already indicated their intention to send specimen shipments. This, of course, is in the nature of an advertisement, and should arouse the interest of beekeepers in the new and safe method of bee transportation. We shall also demonstrate the treatment of diseases during this session.

Another session will be devoted to general discussions. Your work will of course be concerning outyards and the extraction of honey and most up-to-date methods using our equipment which is installed

I shall announce also some of the features of the apiary equipment of this institution which includes a nectar-yielding garden which is being planted and maintained so that the beekeepers may see growing the more important nectariferous plants. There will also be for comparison several types of cement hive-stands.

Another feature will be the display of queens of the different races and types advertised in the country. The equipment of implements and beekeeping materials will be on exhibition and is known as the Massachusetts Agricultural College Apicultural Museum, which Phillips has designated as the most complete array yet gathered. This also includes some rare books on the subject.

Other topics which will be discussed by competent authorities will include problems of increase; those of interest to the beginner as well as some new topics involving the production of colonies during the winter, by Mr. Whitten, of Hartford; the maintenance of bees in buildings for school and other purposes.

Mr. Pettit will doubtless speak concerning Ontario beekeeping conditions, giving an illustrated lecture in the evening, I expect.

Amherst, Mass., May 19. B. N. GATES.

The equipment mentioned by Dr. Gates, which we shall use for illustrating the modern methods for taking extracted honey, will consist of a power honey-extractor, capping-melter, steam uncapping-knife, honey-pump, and all complete.

We might add further that there is a possibility and even a probability that J. E. Crane, of Middlebury, Vt., will be present also. Mr. Crane is a champion of the new method of shipping comb honey in paper cases. He will doubtless be present to illustrate not only the case made of corrugated cellular paper, but how the honey is packed therein.

THE MOTH-MILLER SOMETIMES A BLESSING IN DISGUISE.

INSPECTOR MORRIS, who called at Medina to inspect our bees, called our attention to the fact that the moth-miller is not altogether an unmitigated nuisance. This pest seldom bothers the professional or up-to-date beekeeper. It is only the slipshod, careless, don't-read-the-bee-papers class that it annoys. It is this class who are the early victims of the ravages of foul brood. Their bees become weaker and weaker, and finally die in the winter, leaving combs more or less filled with honey, and smeared over with the dead matter from foul brood, and, unfortunately, these "old gums" containing infected honey are a constant source of infection to all the bees in their vicinity. The healthy bees within range rob them out. In the mean time the moth-miller, if present, gets in its work, and destroys the combs so that no future swarm will find these old hives a suitable abiding-place. It is right here that the moth-miller proves to be a blessing in disguise. These old combs all covered with foul-brood scales would, unless destroyed by some agency, attract swarms; for experience has shown that they are frequently occupied by stray swarms. The bees get nicely started in housekeeping, begin to fill the combs with honey and brood when, lo! bee disease begins to make its appearance. The colony dwindles, of course, dies in the winter, and is again the source of infection to the neighboring bees. They rob it out once more; but if there are moth-millers in the locality they soon destroy these old combs and leave in their place a mass of webs and filth that is so repellent that no swarm of bees will make a home there. Said Mr. Morris, "The moth-miller, after all, may be a friend to the progressive beekeeper in that it destroys one great source of infection—old diseased combs in his neighborhood that might otherwise remain in bee-trees and old boxes for years and years, and for years and years spread bee disease."

The coyote is a nuisance to the western ranchman because it destroys his young stock; but that same coyote is a blessing in disguise, in that it keeps down the jack rabbit that destroys the same ranchman's crops. There is a beautiful balance in nature when left undisturbed. It may be that the all-wise Creator has created the moth-miller to protect the up-to-date beekeeper.

RECENT FOUL-BROOD LEGISLATION IN THE UNITED STATES.

WITHIN the last three or four months eight different States have passed foul-brood laws. Some of them have had old laws that were defective, while others have secured for the first time legal means for the suppression of bee diseases. First among the list was Pennsylvania. It already had a law but no appropriation. This has now been secured, and Pennsylvania will now take her place among the States that have an effective foul-brood law. The administration of the law in Pennsylvania will be in the hands of Dr. H. A. Surface, Vice-president of the National Beekeepers' Association, President of Pennsylvania State

Beekeepers' Association, and State Economic Zoologist. Dr. Surface is eminently the man for this work.

Michigan is another State that has already secured foul-brood legislation. Particulars concerning this were given in our last issue. Minnesota has now secured one of the best laws that there is on the statute book of any State. This measure was passed recently, carrying with it a special appropriation of $3000 a year. At a called meeting of the Minnesota Beekeepers' Association, May 5, a motion was duly made and unanimously carried, recommending the Board of Regents of Minnesota to appoint Dr. L. D. Leonard to the head of the Apicultural Department at the Agricultural College. Dr. Leonard is one of the influential beekeepers of Minnesota. For many years he was president of the Minnesota State Beekeepers' Association, and has been for four years its secretary. He has been keeping bees for twenty years, and in every way is well qualified to fill the post for which he has been recommended.

Iowa has for a year or so back had a foul-brood law, but practically no appropriation back of it to carry it into effect. This defect has been remedied, and now the beekeepers of that State have $1500. The administration of this law has been placed in the hands of former State Foul-brood Inspector Frank C. Pellet. Another bill has been passed forbidding the shipment of diseased bees into Iowa. Mr. F. C. Pellet is not only a beekeeper, but is on one of the lecture-bureau courses for a variety of subjects. Of course this means that he will be able to give public addresses on bees.

For years California has had a foul-brood law; but, like all county laws, this, to a great extent, has been ineffective. It soon became evident that a State-wide law was needed. For a number of years back the beekeepers of the Golden State have tried to secure such a law, but without success. One has now been enacted that is probably equal to any law in any State. It appoints a commission consisting of the State Commissioner of Horticulture, with the president and secretary of the State Beekeepers' Association. It is the duty of these gentlemen to appoint a State apiarian, who, in connection with the commissioners already mentioned, are to make examination of inspectors in order that no one be appointed who is not well qualified for this important work. It will be remembered that the State Commissioner of Horticulture is none other than our old friend Prof. A. J. Cook, formerly of the Michigan Agricultural College, and later Entomologist at Pomona College, Claremont, Cal. He has ever sought to advance the cause of beekeeping. He was largely instrumental, if we are correct, in securing Michigan's first foul-brood law. He conducted a number of interesting experiments at the Michigan Agricultural College, showing the invaluable service performed by the bees in pollinating fruit-blossoms. He was among the first to call attention to the value of honey as a food, showing that it is an invert sugar and easily assimilated. He continued his interest in bees when he went to California. He is a big broad man, and we should imagine that conditions respecting bee diseases will be materially improved.

For several years back the beekeeping industry in Nevada has been growing at a rapid rate; but, unfortunately, there has been no effective foul-brood law to prevent the spread of disease. Bees have been brought into Nevada and California by the carload. In many cases it has been found that these carload shipments have contained bee diseases; but the beekeepers of those States were powerless. Nevada has finally come into line, but, unfortunately, with nothing better than a county law. This, however, is much better than nothing; but it is to be hoped that the beekeepers of that State will see to it that a State-wide measure is enacted, as it would be difficult to prevent the importation of diseased bees from diseased apiaries unless some police authority be vested in some State official.

Mr. J. Benjamin Hall, with the co-operation of the beekeepers of Idaho, has just succeeded in getting a foul-brood law enacted, known as House Bill No. 295. A good appropriation was also secured so that good work may be expected. See Mr. Wesley Foster's comment in his department on another page.

Last, but not least, Texas has finally passed the amended foul-brood law, and the same will become effective July 1. Its administration, as before, will be in the hands of the State Entomologist, Prof. Wilmon Newell, at College Station. Prof. Newell is one of the best entomologists in the United States; and, what is more, an enthusiastic beekeeper himself. The biggest State in the Union, and, possibly and probably, the biggest bee State, ought to have a good man for the administration of this law, and it surely has got him. The special features of the new law will be given later.

All together, foul-brood legislation is advancing at a rapid rate in the United States, and we now have 33 States having foul-brood laws. In most of the States the spread of diseases has been checked. In many others there is a decided decrease in brood diseases.

Stray Straws

Dr. C. C. Miller, Marengo, Ill.

A BEGINNER might understand from a footnote, p. 140, that a certain size of section may be found that will average a pound. I don't think the editor means that, for there is no such size. If you find a super filled with sections of such size that they average just a pound, you may find another lot filled at the same time by another colony with different average. With the same colony you may find the average different in different years, or in different times of the same year. [You are correct regarding different colonies.—Ed.]

I'm glad A. I. Root is taking up the clothing question. But why not tell us where those Florida shoes can be had, and at what price? But I'm more interested in women's fashions. If I understand correctly, freak fashions are gotten up in Paris—fashions that self-respecting French women will not wear—and foisted upon American women as the proper caper. Thank the good Lord, a rebellion has begun. A. I., have you noticed lately the fashions in *The Ladies' Home Journal?* It will do your heart good to look them over—genuine American fashions, and to me they look beautiful beside the outlandish things that bring high prices merely because *imported.*

O. L. Hershiser has made out a strong case against extracting unripe honey, p. 177. He's right. But he may not feel so much like condemning Mr. Hopkins' views if he takes into consideration the difference in conditions in this country and in New Zealand. Here, nectar is counted good if it contains no more than 75 per cent water. *In New Zealand, nectar, when first gathered, is generally thick enough to pass for honey under the United States pure-food laws.* Mr. Hopkins says, *American Bee Journal,* 92, "When first gathered, nectar rarely contains more than 25 per cent of moisture, and usually much less." If the two men were to change places, they might change views. Matter of "locality" again, you see.

B. O. Martin, p. 180, I think you are right in saying that bees which become queenless accumulate pollen before becoming queenless, *if* it is a case of a virgin lost on her bridal trip. I think Mr. Holtermann is right in saying that when bees lose a laying queen they accumulate pollen *after* the loss of the queen. In both cases there is precisely the same thing, as Mr. Holtermann says: "The bees gathered pollen, and did not have larvæ to feed the pollen to, and it had, therefore, accumulated in the combs." For, so far as brood was concerned, the colony with a virgin was the same as a queenless colony. You ask, "Did you ever examine a colony that had just lost a queen? and did you not find the combs full of honey and pollen?" and then you limit the question to the exceptional case of a virgin lost on her wedding-trip. Ask that same question without any limitation and the answer will be, "No, not if the queen had been doing good work at laying right along."

Try the thing in this way: Go to a colony with a good laying queen and no accumulation of pollen, and kill the queen. Look two or three days later, and see if there's any accumulation of pollen. Not a bit; for there has been as much brood to feed as if the queen had continued laying. But go two or three weeks later, and see if you don't find the extra pollen.

You seem to think, Mr. Editor, that half a cubic meter of air is rather small for a 13-pound colony to use in an hour, p. 204. Let's see. At that rate, in a room 10 by 10 and 8 feet high two such colonies would smother inside of 24 hours. Seems to me that's using some air. You're just right, that in a nearly dormant condition they'd use much less. My guess would be not a twentieth as much. [We did not mean to imply that the limit of a cubic meter of air per colony in an ordinary bee-cellar would kill the bees, for, as a matter of fact, a dozen men all smoking can exist in a small room, overheated, with practically no ventilation, for several hours. But it is hard on the men, just the same. If we were to put a colony in a glass bottle, assuming that it could be done, having an internal capacity of a cubic meter, and seal it, we believe such colony would be dead in a very short time, even if the temperature surrounding the bottle were kept down to 45 degrees. The fact is, in an ordinary cellar there would be constant ingress and egress of air. There is usually space around the windows and doors that let in considerable air, especially if the temperature outside is 25 or 30 degrees lower. The oxygen in ordinary air would have to be almost completely exhausted before suffocation would ensue. Perhaps it would pay us next winter to make a metal box a meter long, wide, and deep, and see how long a colony would last in it. We would expect them to boil out of the entrance of the hive and die inside of half an hour.—Ed.]

Beekeeping Among the Rockies

WESLEY FOSTER, Boulder, Col.

COMPENSATION FOR COLONIES DESTROYED.

Mr. Chadwick makes a good point when he says that colonies of diseased bees should not be destroyed unless the owner is compensated, and I believe that there are cases where this compensation should be made. However, there are many extensive beekeepers whose bees continually have foul brood who think it is a good thing to have a little around to kill off the other fellows' bees. These men ship bees to some extent too. If I have a hundred colonies of bees, and half are affected with foul brood without my knowledge, how long will it be before I have no more bees? About a year, I should say, unless there happen to be good honey-flows. Suppose I move these bees to another State, and they are inspected and destroyed. Should I be paid for what I shall soon lose any way? Or should I be made to suffer the loss and build up on a firm basis of knowledge of foul brood? The best plan would be some quarantine method by which I could save my bees and learn to cure foul brood at the same time. Beekeeping extension carried to its proper conclusion will make bee inspection practically unnecessary.

* * *

THE NEW IDAHO LAW.

Idaho beekeepers have a new apiary bill before the legislature that has some good features, and some that are not so good. It deals with shipments of infected bees from other States in this way. The inspector is to be notified before unloading and not after. A fine of $250 to $500 is provided for failure to notify the inspector of the arrival of an infected shipment within five days. A fine of $100 to $200 is provided as punishment for selling or offering for sale diseased bees or exposing diseased material in the apiary.

The examination of bees before unloading is a good point; but a quarantine yard should be provided for in these cases, so that the colonies could be treated and cured without having to be shipped out of the State. The fines provided are too high to be of any use. Five to one hundred dollars would be better. One hundred to two hundred dollars as fine for exposing diseased material in an apiary is impractical, for such fines will never be imposed, and they will not have a tendency to better conditions in cleaning out foul brood in a district. More work and educational effort along the line of foul-brood instruction will bring better results. The aim of foul-brood legislation should be to clean out the disease, or at least to control it—not to fine some one for neglect. Many of us are neglectful.

* * *

THE COLORADO AGRICULTURAL DEMONSTRATION TRAIN.

The honey-cooking recipes are the most popular part of the bee-culture exhibit on the Colorado Agricultural College demonstration train. Mrs. Frank Rauchfuss prepared the goods, and they are so appetizing and toothsome that every lady passing the exhibit wanted to stop and copy the recipes printed on the jars containing the samples. We soon realized that this would clog the traffic through the car, so 3000 copies were run off on the multigraph and given out.

HONEY RECIPES BY MRS. A. RAUCHFUSS.

HONEY BROWN BREAD.

One cup corn meal, 1 cup rye meal, 1 cup sour milk, ½ cup honey, 1 teaspoonful salt, 1 teaspoonful soda. Steam 4 hours, then dry in oven 15 minutes.

AURORA HONEY COOKIES.

One cup honey, 1 pint sour cream, 1 even teaspoonful soda dissolved in a tablespoonful of boiling water. Mix honey, cream, and soda together thoroughly; add a cup of chopped nuts (any kind desired), 1 teaspoonful of ground ginger, and a heaping tablespoonful of ground cinnamon. Add flour enough to make a dough stiff enough to handle easily on the board; roll out part into buttered tins, and bake in a moderately hot oven until nicely browned.

HONEY GINGER SNAPS.

One cup butter, 1 cup sugar, 1 cup honey, 1 cup water, 1 heaping tablespoonful of ground cinnamon, 1 scant teaspoonful of baking soda. Sift the soda into 1½ pints of flour; cream the cup of butter with the sugar; add other ingredients, and more flour to make a dough that can be rolled out. Cut into desired shape, and bake in a moderate oven.

SEAFOAM CANDY.

Two-thirds cup of honey, 3 cups granulated sugar, ½ cup boiling water, whites of two eggs, 1 teaspoonful vanilla, 1 cup of nut meats. Boil the honey, sugar, and water till, if tested in cold water, it is brittle. Pour this in a thin stream over the whites of two well-beaten eggs, beating the whole all the time till like a thick cream, then stir in briskly the nut meats and vanilla, and pour out into a buttered dish. After it has hardened, cut into squares.

With one week still unfinished, over forty thousand people have seen the exhibits on the train. Ten lectures on beekeeping have been given, and much interest has been manifested, as is shown by the questions asked. The questions most frequently heard are about the control of foul brood and swarming. Amateurs surely have trouble in the prevention of excessive swarming. Many report that yellowjackets kill their colonies; but so far it seems that this occurs only where excessive swarming has been the rule throughout the summer, and none but weak colonies short of honey and with the hive but partly full of comb to go into winter quarters. It is no wonder that colonies are soon cleaned out by the yellowjackets.

Notes from Canada

J. L. Byer, Mt. Joy, Ont.

This year, again a number of "apiary demonstrations" are being held in different counties of Ontario. This style of giving instruction in apiculture seems to be rapidly superseding the old-style meetings; for to the average student one ounce of "show me" is worth a pound of instruction of certain manipulations of the bees.

* * *

I do not agree with friend Townsend at all when he says in regard to American foul brood, "Once in a locality always in a locality," as I am sure we have many places here in Ontario that were once badly diseased that are now clear. As to European foul brood, while we have not had the actual experience in our own section yet, I suspect he would be more nearly right if he applied that saying to this disease.

* * *

My intentions are to leave home on May 14 and move 250 colonies of bees, with about 500 supers and other supplies, three miles to the railway, and then 200 miles by train. In addition to this I have to make by mail all arrangements for moving, as I am now 200 miles from the bees. Now, don't all speak at once and say that you envy me the job, else I shall suspect some are hardly truthful in what they are saying.

* * *

In giving the Demaree plan of keeping down swarming by hoisting all brood-combs but one above the queen-excluder, please sound a note of warning to beginners that, unless they are very careful, they will have a lot of dark honey in those brood-combs, and the honey will be all off grade when they are ready to extract. The seasons are rare in this "locality" when *all* the dark honey will be out of *all* the brood-combs when the clover season starts; and for that reason the plan of hoisting all brood-combs above is impractical here, much as we might desire to practice the plan, for it assuredly will knock out swarming if properly done, and give a maximum in the way of a honey yield.

* * *

Also make the "warning" very pronounced when advocating the Alexander plan of making increase, and say that it is advisable to use this plan only in localities having their main flow late in the season; for I agree with Dr. Miller most emphatically in saying that, for clover locations, the plan is no good unless one wishes to cut the crop in half. This year our bees are very strong, many having to be supered in willow bloom, even if the bees are in ten-frame Jumbo hives; and yet under such conditions I would not think of breaking up the colonies unless I were willing to sacrifice part of the crop of clover honey.

* * *

Reports continue to come in, that the spraying law is being violated this year a great deal, and many beekeepers are fearful that much damage will be done to their bees. As pointed out in a recent issue, the fine is very low, and many operators openly say they can afford to pay the fine rather than stop spraying operations when each day's work means about $15.00. Then, again, many beekeepers hesitate to apply the law to neighbors, even if the fine is low, as hard feelings always follow a lawsuit. Something will have to be done in the near future, especially in the commercial fruit-growing districts, as the situation is becoming very acute indeed.

* * *

When sending that protest to Miss Tarbell regarding that glucose-honey-comb canard (page 281, May 1), please send another protest to the chaps who are advocating making queen-cage candy with glucose. Yes, I admit that I recently expressed the hope that honey could be left out altogether in making Good candy for mailing queens, for the queen-breeders' sake; yet I now see that the remedy would be worse than the disease. First thing you know, you will see a big advertisement in the *Ladies' Home Journal* or some other big influential magazine, telling us that even *beekeepers* recognize that glucose is better than honey, and are using it to feed their queens. In a case of this kind, it is better to avoid the very appearance of evil and be on the safe side.

* * *

The latter half of April was very cold and windy, with heavy freezing by night and thawing by day. Result, fully half of the alsike is killed outright here in York Co. We should be thankful that there was a heavy acreage, as we still have lots left for a crop of honey if clover should be in nectar-yielding humor. Flat fields suffered most, because there has been an unusual amount of moisture in the ground. Clover-killing was only local. Most localities report that clover is in good condition. The season for fruit bloom is one of the earliest on record, for winter jumped abruptly into the arms of summer about April 25. Good reports of the bees are coming from all over Ontario, so, needless to say, Ontario beekeepers are hoping for the best this year.

Conversations with Doolittle

At Borodino, New York.

IS NATURAL SWARMING PROFITABLE OR NOT?

There is not a shadow of doubt in the mind of the apiarist who makes a specialty of beekeeping but that he would be much better off if bees never desired to swarm; but with the beginner or the farmer beekeeper there is an element in natural swarming that appeals to him, and to all there is a certain awe and fascination on seeing a natural swarm of bees on the wing. I have heard expressions of wonder and admiration come from the lips of all sorts of men and women when seeing a swarm of bees in the air. One of the great things about a natural swarm of bees, and one which can hardly yet be denied, is this: The bees of a natural swarm receive an impetus to work by finding themselves in their newly pitched tent destitute of brood and provisions, not brought about in any other way. Then if the sections are put over such a swarm as soon as the bees are nicely established in the hive (to an extent where the queen has begun to deposit eggs in the newly built comb or drawn foundation), section honey can be obtained which is rarely if ever equaled by any of the processes of artificial increase yet invented by any apiarist or by any plan of non-swarming.

That there are some weighty objections to natural swarming if it could be successfully repressed is not to be denied; but these may be spoken of under two heads—namely, the time and labor required for watching and hiving swarms, and the danger of loss from swarms absconding.. It may be held by some that an undesirable increase would be the greater objection; but with the practical man this should be easily obviated, even to a point of value. If all swarms are to be hived in empty hives, as was the case with those keeping bees fifty or one hundred years ago, then I will concede the point; but with the one who has twentieth-century light it is only a question of the disposal of the brood in the hive from which the swarms issue, and that is generally very valuable, especially in early swarming. Some seem to think that this brood, when emerged into perfected bees or before, should be returned to the identical colony that produced it; but with the practical apiarist it may usually be used with decidedly greater advantage in other ways.

There are few if any apiaries at the opening of the nectar flow but that have some colonies that are not up to the strength required for the best work in the supers. If these hives of rapidly emerging brood be distributed among such deficient colonies as fast as they can be obtained from the leaving of prime swarms, shaking out of each all of the bees left behind so that they may go into the new hive with the prime swarm, both the swarm and the deficient colonies will be greatly benefited. Thus in a week or two, if swarming continues, all may be gotten in excellent condition, and results obtained beyond the fondest expectations.

Then, too, there are frequently colonies out of condition on account of being possessed with wornout or old queens. Destroy these queens as fast as hives of brood can be obtained, and place one such hive on each colony now queenless. In a few days it will rejuvenate in strength, and will have an extra-good queen coming from the queen-cells left after the issue of the prime swarm.

The danger of loss from prime swarms absconding can almost certainly be prevented by having the wings of the queen previously clipped, which is most conveniently done in May when the fruit-trees are in bloom. Then, as soon as the swarming bees miss their queen, they may be made to hive themselves by having the new hive on the old stand at the time they begin to return. Some claim that, should a swarm come out having a virgin queen at the time such prime swarm is clustered or in the air, said virgin queen would make absconding possible, she having her wings to fly away with the whole mass. But after forty years' experience in this matter, with scores if not hundreds of such cases, I wish to go on record as saying that, so far as I know, the bees of a *prime* swarm will never be satisfied with a *virgin* queen to lead them away from their old mother or the hive of brood which is left behind. Such uniting results in the balling of the virgin, when the whole mass, except the few in the ball, are practically queenless.

The objection made against swarming on account of the time required for attending to it is not great where the apiary can be located within easy vision of that part of the house where the kitchen work is done, as most prime swarms issue between the hours of nine o'clock and one, when the housekeeper can notify the apiarist if he himself is not at work in the apiary. For the highest success in the production of section honey, strong swarms are desirable; and hiving swarms on the old stand and giving them all the bees which the parent colony contained not only conduces to their strength, but prevents that greatest nuisance, the call of "bees swarming."

Beekeeping in California

P. C. Chadwick, Redlands, Cal.

A beekeeper expressed the foreboding that it would be very difficult for the professional apiarist to protect himself from the ravages of black brood with so many uncared-for colonies to contend with. I take a different view of the situation, for it is my opinion that, after a locality is infected with the diseases, there will be a few of the truly watchful and painstaking with the field practically to themselves.

* * *

The foul-brood law proposed by the State Association was passed with only one or two unimportant changes. It carries an appropriation of $10,000, which amount is not to be used for general inspection work, but each county must still pay its own inspector, though the appointment and dismissal are almost entirely at the will of the beekeepers. I believe that we now have the best foul-brood law in the United States. Inspectors will hereafter be appointed on merit, and not to pay political debts. Inspectors will not be able to draw 16 to 20 dollars per month during the winter months for office time, but will have to "produce the goods" or get out. If the State Association has accomplished nothing more, this alone is worth all the beekeepers have paid into the treasury. A copy of this law will appear in these columns later.

* * *

MIDDLEMEN CONTROLLING PRICES IN SPITE OF THE LAW OF SUPPLY AND DEMAND.

Dr. Miller, p. 172, speaks of the women of several large cities taking a hand in the egg market and reducing the price to a point where they could be purchased by the poor, also the apple market in Chicago, and thinks the farmer received no less for the produce on the market at the time. The doctor is, no doubt, right so far as the produce involved was concerned; but when it came to restocking the market for the next raid, the dealer would take into consideration this very feature of the situation, and pay prices accordingly. When such means are used to reduce the price on produce in storage, purchased at a low figure, it may work all right; but when it comes to a market controlled wholly by the supply and the demand, the result would be that the farmer would get the worst of the deal. About the only way this situation can be met is to make it easier and cheaper for the farmer to get his produce to the consumer—not to the dealer, but to the consumer's kitchen, and that seems to me to be the only way it can be done; for if it passes through the hands of one or two middlemen there is too much temptation to combine and fix prices, as I am told has been the case in Los Angeles for a number of years. There the supply has very little to do with the market. The price is agreed upon by the retailers; and if the supply is larger than the trade demands at the price fixed they are dumped to clean up the oversupply, and the grower is paid a price that will enable the dealer to carry on this kind of wasteful business. Many a poor child might enjoy the pleasure of a dish of berries if the price followed the supply instead of the berries being destroyed to maintain an arbitrary price that does not help the producer.

This matter will be given attention by our legislators some day, and I should not be surprised if the national government would be the first to take the matter up after they find it can not be done by tariff laws, which are to a great extent local in nature. Transportation rates reduced to a reasonable figure would be of more benefit to the American people than all of the free-trade or tariff laws that can be devised, if middlemen's profits were reduced in a like manner or eliminated almost altogether. The middlemen have to live, to be sure, but not in this particular line of work; for the time is coming in this land of ours when more men must be producers and fewer live on the work of those who do produce. This applies to the bee business as well as any other agricultural pursuit.

* * *

SUDDEN DROP IN TEMPERATURE KILLING FIELD BEES.

There is one condition that I believe I have never mentioned in these columns, that affects the early spring honey crop perhaps more than any other; and that is, the mortality rate of field bees. California seems to have a cause that is peculiar to this climate. The loss of which I am speaking is due to a sudden change in the air from warm to cold while the bees are in the field, which causes them to become so numb that they are unable to reach the hive. In connection with this I may say that our fine climate is due more to the sunshine than to any other one thing; and without the sunshine we have just as cool and chilly days as are found in New Jersey or any other eastern State during the spring months. Indeed, variation in temperature between

day and night would cause an Easterner some uneasiness for fear of frost, for a change in temperature between day and night is often from thirty to forty degrees. It is not at all uncommon for the temperature to fall at this time of the year from ninety degrees at midday to forty by four o'clock of the following morning. It can readily be seen from this that bees must wait until after sunrise on many days before the air is sufficiently warm to permit them to venture into the field. But the condition just spoken of does not necessarily cause loss of bees. Fog is one feature that causes heavy loss. By this I do not mean the low dense fogs, but the high fog clouds that drift over the sky the greater part of many days, which become denser in the early afternoon. Then, again, the intermittent cloudy days following a storm flurry bring conditions that are equal to any bee-trap that was ever invented. The sun comes out for perhaps twenty or thirty minutes, which gives the bees reason to pour into the field by the thousands, when suddenly a cloud floats over, obscuring the sun, and perhaps it remains there for an indefinite time, causing the bees to chill in the field to such an extent that they are unable to take wing and return to the hive. The sun sometimes shines enough to warm them and enable them to return; but the number of times that they are unable to go back is sufficient to deplete the field force so that it is very noticeable in the numerical strength of the hive. These conditions prevail more or less every spring; and until the weather becomes more settled, there is a constant drain on the forces that are so much needed at this time of the year.

* * *

A DISAPPOINTING SEASON.

This will, perhaps, be my last report on crop conditions in this part of the State for this season, for there will be no crop. This is the most complete failure for many years, and I doubt if it has a parallel in the history of the industry here, though of this I am not sure; but that it is the nearest to a complete failure for ten years I am quite sure. Why? Every thing has been against us from first to last, and conditions are not yet what might be called normal. Of all the reasons for a failure, the lack of rain is the chief cause, with the freeze and an unusually cold spring to contend with, though I consider the freeze to be the least of our troubles. Conditions seemed bad from the beginning; but the bees got a fairly early start at breeding, and this gave a ray of hope for a time. However, the loss of bees from some cause was so great that even those with a good supply of brood failed to make the progress that we had hoped for. For example, on March 1st, in marking my colonies I came to one with two frames of brood which was marked 2. Two weeks later it was the same; but by the end of the third week they had spread to four frames, and there they have remained since that date. They have spread eggs wider several times, but they have been taken up because of being chilled or by choice of the bees under the influence of continued cold.

Another cause in the orange districts was the early blooming, in spite of the cool weather before the bees were ready to gather the nectar, the heaviest flow being almost to a day one month earlier than last season. My scale colony showed the heaviest day this year on April 25; last season it was on May 23. The quantity of nectar and the short blooming period were also a disappointment. So the season of 1913 must pass into history as a failure so far as a honey crop is concerned in southern California, with the fact remaining that we must not expect a crop from wild flora when our rainfall has been much less than ten inches, with a goodly portion of that falling late in the rainy season.

I will give the weights of my scale colony for a period of two weeks, a part of which time was the warmest during the month of April, and will show the weather variations by the amount gathered each day. Previous to the time I began taking weights we had several days of fair weather. (By fair weather I simply mean days when it was sufficiently warm for the bees to fly very freely during the greater part of the day. We have had many days that were clear; but a cold wind and a low temperature made short days and difficult flying the peculiarities of this season.) Before placing this colony on the scales the bees had stored some honey in the extracting-super, which also contained a quantity of brood in addition to that in the well-filled brood-chamber. (The hive was overflowing with bees.) The queen was put below an excluder, and a super of extracting-combs was placed between the two. The following are the daily gains: April 16, ¾ lb.; 17, 2 lbs.; 18, ½; 19, 5½; 20, 2½; 21, 6¾; 22, 6¼; 23, 8¾; 24, 9½; 25, 10; 26, 7¾; 27, 8; 28, 6½; 29, 7½; 30, 2½; May 3, 3½. The variations to this point are due almost entirely to weather conditions. The above figures are gross amounts, no allowance being made for evaporation during the night, which varied largely according to the quantity gathered, and was from ½ to 3 pounds.

General Correspondence

A NEW METHOD OF INTRODUCING

The Various Methods Considered; the Odor Theory—is it a Fallacy?

BY ARTHUR C. MILLER

Legion is the number of plans for introducing queens, and he is a rash man who claims to have found a new one; and yet perhaps the unexpected may have happened here.

The "direct method" was the first one used; and, if memory serves, Reaumur was the man who used it. It was years after he had passed away that the caging plans arose. Who began them may perhaps never be known, for, like Topsy, they seem to have "just growed." But growing and spreading and varying as they have, they have by no means brought satisfactory results; on the contrary, so great is the loss by all cage methods that the beekeepers are few who are not looking for a better way. All of the cage plans are based on the theory that the odor of the queen governs her reception —that is, if she is confined in a cage placed in the colony to receive her until she has acquired the hypothetical odor of that colony she will be safe when released. But, as all experienced beekeepers know, too many times the facts do not prove the theory.

ODOR NOT THE GOVERNING FACTOR IN INTRODUCTION OF QUEENS.

Colonies do have individually characteristic odors, some of which are such that the human nose of fair acuteness and training can detect them. If the human nose can distinguish between certain colonies, then surely the bees, with their wonderfully acute sense of smell, must be able to distinguish between their own and a strange hive. But because the individual bee can recognize the home by odor, it by no means follows that the colony can recognize the individual worker by her odor. On the contrary, when the bees of an apiary get to work on any particular kind of flowers, whether clover, basswood, buckwheat, or other flowers, the bees mix freely. To illustrate: In an apiary of thirty odd colonies there were three distinct and easily recognized strains of Italians and one of blacks. The season until mid-July was poor, the bees getting but little more than a living. An examination of the colonies then showed very few bees in them that were not raised there. There followed a heavy flow from *Clethra,* and within a week every colony had a very considerable part of its population made up of all the different strains. Had the bees' sense of smell gone wrong? Or is the odor factor of less importance than we have given it?

DIRECT METHOD OF INTRODUCTION.

For many years the writer has used some form of direct introduction with queens, and only occasionally has used a cage. In the beginning the "fasting plan" was carefully followed; then, little by little, it was modified and changed, until ultimately all sorts of ways were used for running in the queens. The system which he now uses most of the time, and which never fails, is as follows: A colony to receive a queen has the entrance reduced to about a square inch with whatever is convenient, as grass, weeds, rags, or wood, and then about three puffs of thick white smoke—because such smoke is safe—is blown in and the entrance closed. It should be explained that there is a ⅞-inch space below the frames, so that the smoke blown in at the entrance readily spreads and penetrates to all parts of the hive. In from fifteen to twenty seconds that colony will be roaring. The small space at the entrance is now opened; the queen is run in, followed by a gentle puff of smoke, and the space again closed and left closed for about ten minutes, when it is reopened and the bees are allowed to ventilate and to quiet down. The full entrance is not given for an hour or more, or even until the next day.

The queen may be picked from a comb and put in at the entrance with one's fingers, or run in from a cage just taken from the mails, her attendants running along too. The result is the same. The alien queen and workers are quite as much at home as the real owners of the hive. It makes no difference how long the colony has been queenless, whether just dequeened, or so long that laying workers have infested it.

Right here two conditions should be cited, or beekeepers not familiar with bee behavior may sometimes experience trouble. Colonies with sealed queen-cells or with virgin queens will sometimes supersede the new queen, particularly if that queen has been kept from laying for some days prior to her introduction. A queen taken fresh from the combs where she is laying freely will generally cause the destruction of the cells or the virgin. Different strains of bees and different colonies of the same strain behave differently toward a plurality of queens, or queen and cells. For example: A good populous colony late in September had been dequeened, and had built half a dozen or more queen-cells, most of which were allowed by the bees to hatch. October 14, ten

days after the cells hatched, a virgin queen was removed, and a fertile queen, which had been caged for 48 hours, was run in. The next day the fertile queen was moving quietly over the combs as was also another virgin. The bees had tolerated for ten days a plurality of virgin queens, and later a fertile and a virgin queen. Of course, this is somewhat unusual, and may partly be due to the lateness of the season, breeding having stopped in most colonies.

To colonies long queenless—particularly if suspected of having a virgin queen—it has been found advantageous to give a comb with eggs and young larvæ just before running in the queen. Queen-cells may be looked for and destroyed or not; but so far as the writer has experimented it is not necessary to destroy them, the bees attending to that. If, however, the colony is populous, and the honey is coming freely, a swarm may result if the cells are not destroyed by the beekeeper. More exhaustive observation is needed in this line, however, before it is wise to make positive statements. But with a virgin present, the giving of eggs and larvæ will almost invariably cause his disappearance. And it is impossible to ensure the safe introduction of a virgin to a colony having eggs and larvæ.

The loss of virgins in introducing is due either to the cause above cited or to their running out. To prevent the latter trouble it is found best to run in the virgins near nightfall, when all the bees are in, and then plug the entrance with a leaf or leaves. By morning the leaves will have wilted so the bees can get out, and matters will proceed normally.

It is the writer's preference, in introducing laying queens, to dequeen the receiving colony immediately before running in the new queen.

The theory of the cause of the success of the "direct method" here described is this: Bees in distress, whether workers, drones, or queens, know no enemy or alien, and each one is turning to some other for "help" or food, and every bee which comes within the influence of the uproar of a distressed colony seems to be seized with the same emotion. The bees with the queen in the cage, as soon as they are placed at the entrance, evince every sign of the same disturbance as shown by the bees of the colony, and it takes but a gentle puff to send them in.

The closing of the entrance after the queen is in is to ensure the distressed condition throughout the entire colony, and keeping it closed for the ten or fifteen minutes is to prevent too speedy relief. Then, too, if the full entrance were opened, the bees might pour out in a mass, and cause bother; whereas by opening only an inch, few rush out before systematic ventilating is taken up.

The inexperienced and the thoughtless need to be cautioned as to two things, namely, closing in a full colony without giving the bees room to spread into and get off from the brood, and closing in a full colony sitting in the sun in the middle of a sweltering day. The skilled bee-master can do both of these things; but he does not do either of them if it can be avoided. And when he does do them, he stays right on the job, keeping eyes and ears open. The inexperienced should also be warned against running virgins into full colonies and closing them for over night. It is poor policy to give a virgin to a full colony at any time. It is much better practice to mate the young queen from a one or two frame nucleus.

It will be well, perhaps, to mention another item in the behavior of introduced queens. It is not unusual to find that a queen which has been given to a colony for some time queenless—say until all larvæ are sealed, or nearly ready to seal—fails to lay, even after she has been in the colony for a week or more. This is particularly so when the queen has been for a long time caged. To start her to laying give the colony a comb with eggs and larvæ of various ages, and with or without the adhering bees. In from 24 to 48 hours the queen will begin work.

The writer has run in hundreds of queens by various "direct methods," and has found the system here described the best. He believes it, as a whole, to be original with him. Its trial by all beekeepers is urged, for it seems to be an easy solution of a much-vexed problem.

It may be contended by the champions of the odor theory that the shut-in smoke imparts a new and uniform odor to the bees of the colony and to the new queen, and that the success is due to that. This is plausible; but the same success can be obtained by agitating the colony by closing the entrance, pounding on the hive with the closed fist until the bees are roaring, and then run in the queen. It is as uniformly successful as the use of smoke, but not quite so quick, and a bit hard on the fist.

Providence, R. I.

[Our correspondent has for several years believed that the odor theory for introducing has been overworked. He is possibly right. It is a fact that can not be denied, that there are several conditions that must be right before successful introduction can be accomplished. We have held that a like

odor is one of the conditions; but it is not the only one. The caging method of introducing is the one commonly recommended by the commercial queen-breeders to their customers. It is simple, convenient, and in most cases it gives good results. In our own apiary it rarely fails. Why do we believe in the odor theory? We may cite a few instances that will help to explain our position:

The ordinary queen that has traveled from a hundred to a thousand miles in the mails acquires a variety of odors that are foreign to the inside of the hive. It is well known that a queen from the mails is harder to introduce than one out of the same yard, especially if the latter is introduced while in the height of her egg-laying from a vigorous colony. The odor of a fresh-laying queen is an important factor in successful introduction. The bees know that she has been recently at her job. Indeed, she has so much of the general colony odor that they may not know that a change of queens has taken place. In this connection we recognize that there may or may not be a specific colony odor; but we believe there is. We will refer to this later.

Now, then, the object of caging a queen just from the mails, before letting her loose, is to let her get rid of the variety of odors foreign to a hive, and at the same time let her acquire a general colony odor. The object of caging is not alone for the purpose of getting the odor right, but for the purpose of letting the queen get out of her confinement quietly and without disturbance. When the queen and the bees eat out the candy, she works herself into the presence of her subjects so gradually and so easily that there is no disturbance, and she begins her duty shortly as if nothing had ever happened. The object of caging then is for a twofold purpose—like odor, and entrance into the colony without disturbance.

We have recommended the caging in preference to the various methods of direct introduction because we believe that the average beginner will succeed better with them. The method described by our correspondent may be better, but requires an exact procedure, some details of which the average novice and some veterans might inadvertently omit.

A little way back we spoke of the importance of a like odor in a colony. We have for years practiced what we call dual and sometimes plural introduction—that is to say, there may be two or more virgin queens caged at the same time in a nucleus. Virgin No. 1, caged first, will be released. If accepted she will soon be laying, when she will be removed and No. 2 is released. She has been in the hive or nucleus for several days; has the same odor as the queen just removed. No. 2 begins to lay, when she is finally succeeded by No. 3, and so on the process of caging and removing proceeds. While one queen is getting ready to lay, the other is acquiring the nucleus or colony odor.

Now as to the question whether a colony has an individual odor. We do not know how the inmates of the hive would recognize that the outside bees were robbers unless there were an individual odor to each colony. Again, in uniting, two strains of bees will often fight, sometimes utterly annihilating each other. A little tobacco smoke or even common smoke obscures the distinct colony odor so that all smell alike of tobacco or common smoke. Mr. Miller possibly holds the view that the disturbance arising from the use of the smoke brings on a condition of demoralization that obliterates the fighting qualities. We admit that on this point he may be right. Neither do we say that he may be wrong in regard to the odor theory in the general subject of introducing.

Right in this connection we believe that the plan here outlined by our correspondent for direct introduction by the use of smoke is a good one; but it is our opinion that two elements—odor of smoke and disturbance—make up a *combination* that insures the success of the plan, although we admit that either one alone would be sufficient in most cases.

There are several interesting facts that Mr. Miller brings out in his valuable article to all of which we give assent, except that we attach more importance to the odor theory than he does, and at the same time we believe that the caging plan for the novice is the safer one to follow. The average beginner might make the mistake of closing up a colony over-populous on a very warm day, and that would make trouble. It is a little difficult to tell him when he may and may not do this. But almost anybody can follow the directions to lay the cage on the top of the brood-nest, and let the bees do the rest.

In this connection we believe the push-in-the-comb-cage plan of introducing would be better than the eat-out-candy plan; but we have hesitated to give it to our customers for fear that they might not get the cage properly adjusted on the comb.

This is a good question for discussion, and we should be glad to hear from others. —Ed.]

IN MEMORIAM OF OLIVER FOSTER

BY WESLEY FOSTER

Oliver Foster was born in Grant County, Wis., March 21, 1857, and died March 12, 1913, at Boulder, Colo. When eleven years of age he moved with his father's family to Mr. Vernon, Iowa, where he grew up and went into beekeeping and queen-rearing while still a young man. His first swarm was hived from a stump near his home when he was fourteen. The year 1879 was the date of his first queen-rearing operations and of the handling of supplies in quantities.

About the year 1881 he invented a comb-foundation press, and he sold a good many of them. Mr. Doolittle wrote him not long ago that he was still using the outfit, and that it was doing good work. The following description of the machine is from his circular printed at the time:

FIG. 1.—The object of my invention is to furnish a very cheap machine to mold foundation directly from melted wax. The mold, AA, consists of two plaster-Paris plates in strong iron-braced frames, hinged together. The melted wax is sprinkled over the right plate by drawing the fountain across and back (the fountain is now made very light). The wax pours from the row of holes as the fountain is drawn back with the handle raised. This is done with the right hand. The mold is closed with the left hand; and the surplus wax, if any, passes into the water in the tank. The fountain is left in the wax while the mold is opened and the foundation removed. As the plates lie in water they are constantly cooling and moistening; hence no soap or other lubricator is needed to prevent sticking. The operation is very easy and simple. I use the best patterns, and make perfect casts every time. One set of casts will make about 200 lbs. of foundation. Some say more. The foundation can be made thick or thin on the same mold, from 5 to 20 square feet to the pound. The very light is made by pressing small thin sheets, say 4 x 6 inches. A lever is used which I "throw in." The foundation is not quite so perfect in form as some; but the bees use it just as well. Full instructions sent with machines. The mold weighs about 20 lbs.; whole outfit, 50 lbs.

Mr. Foster also invented and patented a honey case and clamp made to be used with the four-beeway section. It was designed to give the bees the freest possible communication from top to bottom and throughout the super. Page 450 of "Langstroth on the Honeybee" quotes several paragraphs from his booklet which I am inserting here. It will show that he studied the problem of comb-honey production carefully and was original in his findings.

There should be free communication between the sections in every direction. They should have deep slots on all eight edges so that the bees can pass freely over the combs from end to end of the case, as well as from side to side, and from top to bottom. You may not appreciate the importance of this until you have tried them. When we take into consideration that the object on the part of the bees in storing up honey in summer is to have it accessible for winter consumption, and that in winter the bees collect in a round ball, as nearly as possible, in a semi-torpid state with but little if any motion except that gradual moving of bees from the center to the surface and from the surface to the center of this ball, we may imagine how unwelcome it is to them to be obliged to divide their stores between four separate apartments, each of which is four inches square and twelve inches long, with no communication between these apartments.

About 1885 he was carefully studying comb-honey production, and the result of his investigations were printed in a little book, "How to Raise Comb Honey," a copy of which I have never seen. If any of the readers of GLEANINGS have a copy I should like to know of it.

In 1894 he moved two cars of bees—180 to 190 colonies—and equipment to Las Animas, Colo., from Mt. Vernon, Iowa. He

The late Oliver Foster, pioneer beekeeper, inventor, and manufacturer.

reached Las Animas in May and harvested about 70,000 pounds of extracted honey that season—the largest average per colony he ever had. This crop was also the whitest honey he ever produced, and did not granulate in the sixty-pound cans for a year—remaining clear and liquid. This is something of a point for alfalfa honey.

The following spring Mr. Foster moved the rest of his bees from Mr. Vernon, Iowa, to Las Animas. His bee-supply and queen-rearing work was given up for extracted-honey production, and he also dropped most of his experimental work.

In 1903 he sold out at Las Animas and moved to California for his health, but re-

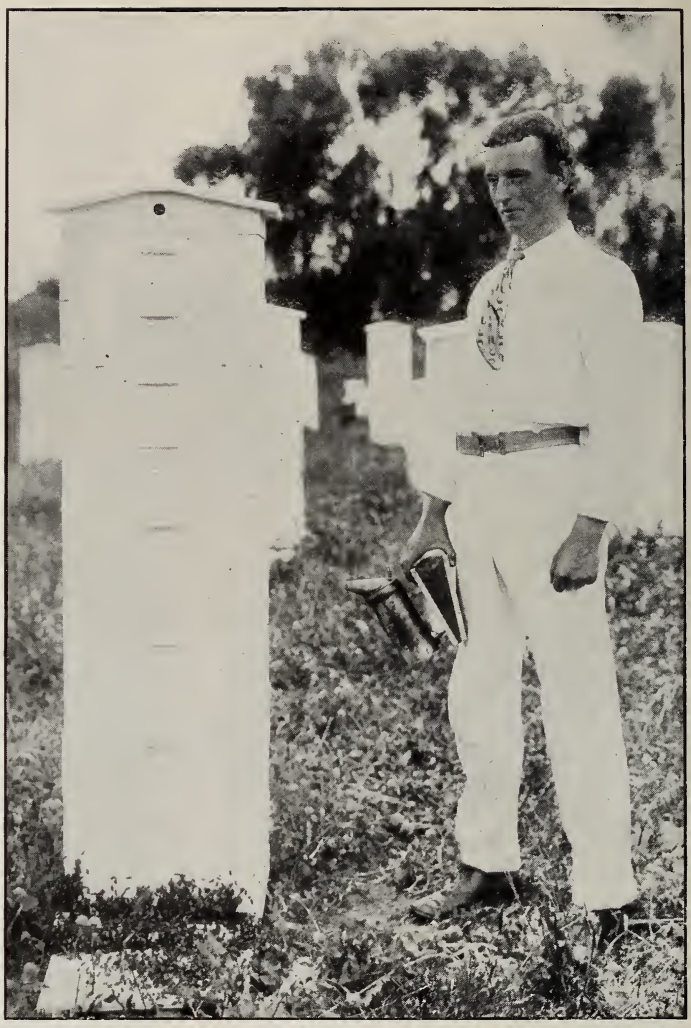
turned to Colorado in 1905, locating in Boulder, where he and his family have lived since that time. During his residence in Boulder he did more experimenting, and some of his ideas were of much benefit to himself and to other beekeepers who adopted them.

Throughout his whole life he had to save his strength, never being very robust, and for this reason a great deal of work had to be done by hired help. He has been especially successful in leasing bees to men who have worked under and with him.

At the time of his death he owned and was interested in about fifteen hundred colonies of bees in three different States, five systems of out-apiaries, and fifteen locations. His net income from leased bees has been between 12 and 15 per cent for a term of about ten years.

He has belonged to the Methodist Church since a boy, and has filled every position in the Sunday-school, from teacher to superintendent. At the time of his death he was a member of the official board of the First Methodist Episcopal Church of Boulder.

Boulder, Colo.



Mr. R. N. Gidley, of New Zealand, and one of his best colonies which had stored 227 pounds up to the time the picture was taken.

ANNUAL FIELD DAY OF THE CANTERBURY BEEKEEPERS' ASSOCIATION

BY E. G. WARD

The Canterbury Beekeepers' Association held its annual field day at the apiary of Vice-president R. N. Gidley.* The party went by drag about 27 miles from Christchurch. The weather was very warm, but ideal for the purpose. After being welcomed by the host, lunch was partaken of and an adjournment made to the apiary, where the government inspector, Mr. L. Bowman, gave demonstrations in modern methods of handling bees, and answered a number of questions on bee subjects. Mr. Gidley opened some of his best hives, and explained his methods of securing a large crop of honey. During the day the president gave a short address explaining the objects of the Association. He also spoke of the interest taken in bee culture by the government. The necessity for co-operation in the disposal of the crop was touched upon by both Mr. Bowman and the president. Mr. A. Ireland, a past president of the association, also gave an address on similar lines, and on his motion a resolution was passed affirming the principle of co-operation, and leaving

* A picture of this apiary appears on our cover for this issue.—Ed.

Field meeting of the Canterbury Beekeepers' Association at the apiary of R. N. Gidley, Lakeside, N. Z.

the matter of the formation of a company on these lines in the hands of the executive of the Canterbury Association. A vote of thanks to the host was carried with musical honors, and the party left for home after spending an enjoyable day.

Christchurch, N. Z.

SHIPPING FRAGILE ARTICLES

Some Advice from One who has had Experience

BY JAY W. GEE

Continued from last issue.

The matter of glass in the case has been frequently mentioned in GLEANINGS. I do not believe that the use of glass makes any difference one way or the other, except to weaken the case. The average day laborer on a transfer platform has little time and no inclination to be peering through either a two-inch or three-inch hole in any of the boxes he handles to see the contents. If he be a negro there are two things he always knows from outside appearances—shoes and whisky; and if you don't look out, Sambo is going to have some of both. If one is compelled to ship by freight, the honey should be thoroughly and tightly packed in corrugated paper or something similar to take up shock and vibration in a very strong case; and you can not make them too strong. If you have a carload, have your agent lend you his instruction-book governing the loading of dynamite, and brace the honey exactly the same as you would for that explosive. In switching, cars get some terrible licks unintentionally. I have seen them hit so hard that you could see them bow up in the middle apparently six inches.

GLEANINGS is against shipping by express, I know; but as the express business will soon be in the hands of the government, perhaps Brother Root will relent. I am just stating my experience. At one place where I was employed for several years I handled the express on commission, having a large transfer to take care of also. After I had been there about two years I had meantime been experimenting with a few hives of bees, and had taken off about one hundred sections of snow-white honey. There was no local sale. In fact, I gave my neighbors all they wanted. The best price that the nearest town offered was ten cents. I had a relative in the Texas Panhandle in a good town, who offered to take all that I would send him, and pay twenty cents. How to get forty or fifty pounds to him was the question. One thing the public as a rule does not know about the express—all employees are under bond, and held strictly accountable for the safe keeping of the property in their care. Every claim that the express pays is traced down to the em-

R. N. Gidley, New Zealand, demonstrating his method of securing a large crop of honey.

ployee at fault, and he is compelled to pay it. There are very few claims that are not saddled off on some one. Hence you may be sure that the express man gives attention to every thing in his care.

In my two years' experience I had noticed that packages received attention in *inverse* ratio to the care with which they were packed. For instance, if I ran across a very strong and well-made box I would pitch it from one end of the car to the other; but if the parcel happened to be a frail hat-box, with the merest strip of crating around it, or a splint basket lined with cotton, and marked "Eggs," I handled it with the greatest care, and so did all the rest, and so they do yet. You can't turn a splint basket over; you can't pile any thing on top of it; and you have to handle it carefully at all times. That gave me my cue. The saloon man across the street gave me several corrugated-paper cartons of the size that he used to ship half-gallon jugs in. Seven sections of honey, firmly tied together with the top sides up, and just a few thicknesses of paper around, made a compact package that exactly fitted in the carton. I then sealed the carton, put some straw in a common five-cent splint basket, and put the carton in it, this also making a snug fit. Then I tied the carton in firmly so that there was no possible chance for it to work loose. Finally I wrote in my ordinary hand, on one edge of the carton, "Honey! handle with the same care as"—and then in large printed letters that took up the rest of the space of the carton—"Eggs." The object of this was not to deceive, but to be sure that every one handling would see at a glance the fragile nature of the contents. Of course the shipment was billed "1 bsk honey;" and as the entire package weighed just a little over nine pounds, and comb honey, owner's risk of breakage or leakage, takes a special rate with a minimum charge of thirty-five cents, this sample cost me just that amount. I could have sent it much further for the same money. As it was, it had to go to New Orleans for the first transfer, then across Louisiana and Texas. After this long trip it reached its destination in perfect condition.

My next shipment consisted of four cartons placed in a box into which they fitted, with hay in the bottom and around the sides. The top was open except that wire was zigzagged across to keep the carton in, and half a barrel-hoop was used for a handle, also as a guard to keep the box from getting tilted over on one side or getting turned upside down. This and subsequent shipments made in the same manner also went through without a single comb cracked or bleeding. My recollection is that the four cartons complete weighed forty pounds, and the special rate was $2.10 per hundred, or 84 cts. for each shipment. Articles that take a special rate by express take pound

rates—that is, you multiply the pounds by the rate per hundred; and in shipping any thing by express one should always find out whether the article to be shipped is entitled to that rate.

When the parcel post is prepared to give the matter entrusted to it the same care that the express companies do (and that time will not be any longer than it takes the Department to work all the details out) I believe that the method I have here outlined will be the best for small shipments of comb honey. One can then have any number of customers in all parts of the country, and can send five, ten, or more pounds of honey with perfect safety at a saving to both producer and consumer. By then, too, Brother Root will be making or supplying baskets and cartons to the trade, so that it will not be necessary to call upon the saloon business for help.

Several times while in the express business I accepted shipments of comb honey in strong boxes and in the ordinary glass-front shipping cases. One such, going only ten miles, was so injured that the contents had to be sold as bulk comb; and another going one hundred miles had leaked so that it could hardly be handled. I never knew of any that entirely escaped.

The following are the essential points in handling comb honey: First, the comb should at all times be top side up, just as it comes from the hive; second, the container should be such that all vibration is taken up; and, lastly, the package should be of a kind that all parties who handle it would know at a glance that it required the greatest care. In case the shipment is to be made by freight, the package should be strong and well braced; if by express, in as light and fragile but as well packed a container as possible; if by mail—wait a while and let us have a little experience first. Ultimately, however, I believe we can ship by mail the same as we do by express now.

STEAM FROM A TEA-KETTLE FOR THE UNCAPPING-KNIFE

BY J. L. BYER

For the past few seasons we have used the steam-heated uncapping-knife, and like it very much, particularly if the honey is very thick and the weather none too warm. The picture shows my son in position for operating. But with snow on the ground and a heavy cap on the operator, it does not look very "seasonable." However, it shows very plainly the outfit we have worked with which has given good satisfaction. The kettle shown is only a small one, holding about a quart of water. The spout was removed, and one from a common machinist's oil-can was soldered on instead. It was placed in a more upright position as will be seen; and as it tapers toward the end, the rubber tube fits on closely. To keep steam from leaking around the lid of the kettle, two or three thicknesses of cheesecloth were put over the opening and the cover then pressed in. Small as this kettle is, once filling with water will last half a day. A single-burner oil-stove is used, and this has given sufficient heat, with the exception of a couple of very cool days last

A boiler for the steam-knife, made from a tea-kettle.

350 lbs. of wax from the cappings from 35,000 lbs. of honey—one pound of capping wax to 100 of honey extracted.

Sawing "bee" in Ontario.

fall, when extracting buckwheat honey. But as a two-burner stove of this pattern costs less than a dollar, one can easily use the larger size if desired. The cappings are allowed to drop into the regular style of uncapping-can, and after draining well are left to be attended to in winter season, when we are not so busy. They are then either washed and the sweet water used to make vinegar, or else the cappings are run through the capping-melter; and the honey is then sold with the buckwheat crop the following season.

The picture shows 350 lbs. of wax that we have just run through the Hatch-Gemmil press, being the product from the cappings from 35,000 lbs. of honey. Although the cappings were pretty well drained last summer, when running them through the melter this winter we got about 600 lbs. of honey. Really it was a surprise to us as to where it all came from. It has a cooked taste; but that from the clover is not a bad honey after all. It will be used for honey vinegar in the spring, while the darker grade will go, as we have already stated, with the buckwheat honey next season.

Some may wonder why we run the cappings through the press, and I might say that there are always some bits of comb, etc., that make it necessary to strain the wax any way, and, all things considered, we think we can make better time and a better job by putting it through the press and finishing at one operation.

The sawing "bee" shown in the picture is not directly related to *Apis mellifica,* of course, and yet indirectly the operations depicted have had a great influence on beekeeping. As we drive through the country, the denuded landscape makes us painfully alive to the fact that soon there will be no more of these sawing-bees, as basswoods, maples, and other trees are fast disappearing. Not so long ago it was the custom for nearly all the farmers to have a year's supply of fuel cut at these gatherings, and often in the evening a social time would be spent by the happy young folk. Now the farmers who burn wood in our section are the exception, as coal and kerosene have replaced the wood. More than that, the coal now bids fair to be soon superseded, as everywhere you hear the farmers and others speaking glibly of "hydro-electric" as the coming source of fuel, light, and power in the near future. Surely we are living in a changing age; and the beekeeper, no less than the farmer and artisan, has to adapt himself to the changed conditions and govern his operations accordingly. No, the young women do not cut the wood here in Ontario, as the picture might lead one to believe, but who will look into the smiling, healthy faces and dispute the fact that they would be able to do so, if circumstances should ever put them to the test?

Mount Joy, Ontario.

[Rendering well-drained cappings in a melter generally results in scorching the honey somewhat, owing to the fact that the

amount of honey in proportion to the wax is small. We are surprised to note that, out of the total weight of 950 pounds of drained cappings, nearly two-thirds of the weight was honey.—ED.]

SOME CAUTION IN THE TREATMENT OF DISEASE

BY J. M. BUCHANAN

I must take issue with E. D. Townsend, pages 760, 813, Dec. 1, 15, as to the use of combs which have contained American foul brood. While it may be possible that all the diseased matter may be cut out, still it is impossible to know when this is done; and it seems to me that it is running a great and unnecessary risk to use such combs. The germs of the disease are carried in the honey to all parts of the hive; and who can say, without a careful microscopic examination of every cell, where these germs may be? It is not alone in the cells that have contained diseased brood, but in many cases it may be above the excluder, remote from the brood-nest.

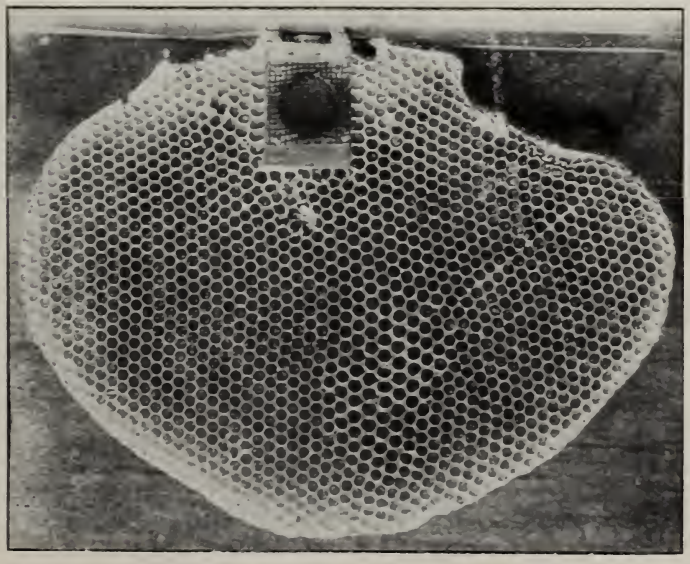
While brother Townsend may be able to control the disease in this manner—that is, by cutting out the diseased portion and using the rest of the comb—still the rank and file of careless beekeepers will undoubtedly make a mess of it, if such practice is sanctioned by the bee journals. Like J. E. Crane, in my work as inspector I have found all kinds and conditions of beekeepers, and by far the majority are too ignorant or too careless to treat the disease successfully by any of the modified methods. The best and safest way, I have found, is to recommend shaking into an empty hive and carefully burning or burying all of the frames, combs, brood, and honey from the old hive. The hive may be saved if properly scorched out.

USING COMBS FROM A SUPER OVER A DISEASED COLONY.

Last year the editor stated that the combs from a super over a diseased colony might be used with safety. To give the matter a test I took three combs from over a diseased colony. They were fresh combs and above an excluder, and I gave them to a clean colony late in the fall. As soon as brood was started in these combs in the spring, the disease appeared, showing that such combs are not always safe.

DON'T FOOL WITH AMERICAN FOUL BROOD.—While a careful manipulator may experiment with European foul brood in many ways with impunity, it does not pay to "fool" with American foul brood in an apiary where there are healthy colonies. There is much danger of robber bees spreading the disease; also danger of the operator carrying the infected honey on his hands or clothes to other colonies.

I have found carbolic cloths a very valuable aid in the inspection and treatment of diseased hives, as they are the best preventive of robbing that I know of. Old burlap bags are cut up and sprinkled with crude carbolic acid, and spread over the hive or over the combs that are removed. By the way, these same cloths when dry make the most satisfactory smoker fuel.



Piece of comb built in six days after a queen was introduced.—*From E. G. Ward.*

It seems too bad to destroy nice fresh combs that, we fondly hope, might be clean; but it is safest in the long run, where one is not prepared to render them entirely out of the reach of bees; and few beekeepers are thus prepared. I have burned hundreds of nice straight all-worker combs, and buried the ashes; and, while it hurts my feelings to do so, still it is "good riddance to bad rubbish."

DO NOT USE MAILING-CAGES FOR INTRODUCING.

Another careless practice that should be avoided is the in-

How clover is getting a spread in the wild lands of the Northwest.

troduction of queens in mailing-cages, when it is impossible to say that the candy in the cage is not infected. I suppose nearly all queen-breeders are reasonably careful in using clean honey to make candy; but there is always a risk to run; and it is easy to be on the safe side by using a clean cage, if one must use this antiquated method of introduction, being careful to burn the mailing-cage, together with the escort of bees. By using the direct method of introduction the danger of infection is avoided, and at the same time the safe acceptance of the new queen is insured. This method has been given several times in GLEANINGS, and is in use by hundreds of up-to-date beekeepers, so it is useless to describe it here.

In the treatment of brood disease the safest way is none too safe; and just as we should avoid the appearance of evil, we should take no chances with American foul brood, knowing that the vast majority of beekeepers are none too able to cope with the disease at the best.

Franklin, Tenn.

Sheep clearing brush lands for clover crop.

FORMER FOREST LANDS BEING CONVERTED INTO CLOVER-FIELDS

BY J. L. GRAFF

Sheep and clover are working a dual part in the vast tracts of cut-over and burn-over lands in Minnesota and other northwestern territory in which the last of the lumber is fast disappearing. The promise of increased fields of clover bloom has much in store for the beekeepers of that region.

Sheep are being brought from Montana and other far-western ranges to feed on wild land for the purpose of clearing out the brush preparatory to the sowing of clover. It is claimed that twenty ewes will clean up five acres in as many months, and leave the ground so clean that, when the frost is coming out of the ground the following spring, seed will catch without any other soil preparation, and a good stand of clover will be secured in this way. At least two crops are cut in one season. By fencing small tracts and changing the sheep from one tract to another, the patches are well cleaned and the sheep take on a sufficient quantity of mutton to sell for much more than they cost when they were turned into the fields.

One of the illustrations shows the character of the land being cleaned up. No attempt is made to take out the stumps; the seed is sown between them. In the lower right-hand corner is shown for contrast a small section cut from a photograph of one great field of clover in bloom. From this corner picture one may imagine what kind of improvement could be seen if the clover were to spread over the whole tract. In one county alone in Minnesota, efforts are now being made to clean up two million acres.

Chicago, Ill.

ENTRANCE AT TOP OF HIVE AN AID IN SWARM PREVENTION

BY I. W. BECKWITH

I have read several items in the bee journals, in which the writers complain that bees are adverse to going up through the queen-excluders with their loads of honey, and so deposit too great an amount in the brood-chamber, thereby crowding the queen and causing swarming. Some beekeepers call the excluders "honey-excluders," and thereby denounce their use.

I thought that, as the bees object to carrying their honey up through the excluders, perhaps they would object to carrying it *down* through them, and so I might take advantage of that propensity by reversing the process. So when I set my bees out in the spring I closed the fly holes at the bottom of the hives and moved the lids back so as to allow entrance at the top. It is best to do this, on setting them out, before they have become accustomed to going in at the bottom. If they become accustomed to using the bottom exit it will be necessary to close it tight so as entirely to exclude the light; and even then the bees inside will crowd that part of the hive, and those outside will try to go in there for a month after the change has been made.

As soon as a super is needed, take the escape out of the escape-board and tack a piece of queen-excluder over the hole; put it on the hive, and a super having an entrance at the front end. I prefer to have this piece of queen-excluder near the front end of the board so that the bees may find it more readily. It may be well to put the escape-board in place at first, leaving off the zinc until the super is needed.

The result of my experiment was not only that the honey was stored above (only enough carried below to feed the young, the queen having unlimited room). The bees raised so much brood that they were soon very strong in numbers; and before the season was over they occupied two extracting supers and then one half of the bees clustered on the outside of the hives, there not being room inside, and not one of the 22 colonies so treated offered to swarm.

I wanted to divide some of them, and so put brood above for them to raise queens *a la* Doolittle; but they would start no queens; and when I gave them cells nearly ready to hatch they either tore them down, or the few that they allowed to hatch soon disappeared, so I conclude that I have unwittingly solved the swarming problem.

This was three years ago last summer. I then quit the bee business and left Wyoming for this State.

I used extracting-supers, having some old brood-combs containing pollen. I am not sure but the bees may have stored some pollen above; but if so it was only near the entrance to the brood-chamber.

In order to give my bees more ventilation than this arrangement would allow I tacked wire cloth over the lower entrance.

Rodeo, N. M.

[A number of beekeepers at one time or another have used upper entrances—most of them, however, using them in connection with a lower entrance also. The objection to having but one entrance, and that at the top, is that in localities where the nights are cool there is danger of having the bees desert the supers, and also that the brood

may become easily chilled. Then at certain times of the year it seems to be almost imperative that bees have an entrance at the bottom of the hive to facilitate carrying out dead bees, debris, etc.

The experiment described by our correspondent is an interesting one, however, and in warm climates would probably be worth trying. There is no question but that, in very hot weather, an upper entrance in addition to a lower one facilitates the storing of honey and saves time and bee energy. There is also somewhat less danger of swarming on account of the added amount of ventilation afforded.—Ed.]

DOES THE ADDING OF EGGS AND LARVÆ TO A COLONY WITH A VIRGIN SOMETIMES CAUSE HER DISAPPEARANCE?

BY JOHN H. JOHNSON

Dr. Miller, p. 718, Nov. 15, asks that some one settle this question. The doctor had evidently thought the question settled long ago. And now comes one, Arthur C. Miller, unsettling it, and making the doctor trouble. At Medina, Ohio, it seems the boys thought so too, as both Mr. E. R. Root and Mr. Mell Pritchard have endorsed the giving of eggs and larvæ. By the doctor's confession, that policy did poorly enough at Marengo. When it comes to prescribing it for the whole country (I mean no discourtesy), the doctor might better say, "I don't know."

If by giving eggs and young larvæ I lost 8 out of 17 virgins I too, like Dr. Miller, would want the question resettled. I am thoroughly persuaded that the season and the locality have much to do with the disappearance of virgin queens. The treatment that may do fairly well at Marengo and Medina may not do at all at Bangor, Pa., nor at Providence, R. I.

I kept bees for about 43 years, and raised my own queens and some to sell, for about 35 years. Beekeepers then, in this section, reared queens in nuclei and practiced artificial swarming to some extent. We strengthened both kinds, even while they had virgins, by giving eggs and larvæ. The loss of young queens was heavy, especially some seasons.

I observed that the colonies that swarm naturally rarely lose their virgins. About that time I also read that the giving of eggs and larvæ endangers the life of the virgin queen. That led me to decide that nature's way of having the stands eggless and larvæless at the time of the young queen's mating is the proper way. I now closely watched to see what treatment the bees gave the virgins upon their return from successfully meeting the drone. I saw that the eggless and larvæless stands very rarely balled their young queens. But in times of dearth of honey, those stands having eggs and larvæ were veritable fiends at balling their newly mated queens. I found a few that the bees had smothered by the next morning. The dead queens were dry and glossy. Some of these balled queens were released by the bees, and became laying queens, with now and then a leg disabled or wings ragged. Most of those balled had that black glossy appearance as though they were varnished. I should like to hear from other beekeepers regarding their observations.

The past season I permitted 14 colonies to swarm naturally. There was a loss of one virgin among the 14. I reared in nuclei, I think, 26 queens with a loss of two virgins among the lot.

I should like to request that Dr. Miller try the eggless and larvæless method another season, with nuclei that have virgin queens, as compared with the egg-and-larvæ method.

Bangor, Pa.

HIVING A CLUSTER OF BEES FROM A RAIL FENCE

BY MRS. FRANK M'GLADE

After reading Mr. J. L. Byer's article, page 301, May 1, about hiving a swarm of bees on a rail fence, I thought another experience along that line might be interesting to the readers of Gleanings.

Early one morning in June a swarm of bees came out and settled on a barbed-wire fence near the beeyard. Soon after, another came and settled near the first. While I was busy hiving them, a third issued and settled above the two hives with which I was working. The first swarm went in all right; but when the third had settled so near the other hives, the second was not managed so easily. I finally succeeded in hiving them, however, and went to the house. On going out in the evening to remove them to a different location I found both hives empty with the exception of a few stray bees. Any beekeeper can imagine just how I felt. We looked everywhere for them, but in vain.

Two days later, however, just after dinner, my little son started down across the back lot in search of wild strawberries. As he was crawling through a hole in the old rail fence, he almost touched with his head a cluster of bees on the rails among the briers and tall weeds. He called to me to come quickly, saying that he had found the

bees. There must have been a bushel of them. I determined then and there to have them yet at any cost, even if I could find no one to help me. I realized that it would be useless to try to shake them off, so I pushed my way as close to them as I could and set a box near them. I stretched a sheet over the box down under the bees and started the smoker. I worked with those bees for three hours, but they seemed determined to cling to the old rail fence. I kept on using smoke, driving them toward the hives, which were full of old comb, as the former occupants had starved.

When one hive was so full that there was not room for any more bees I moved it and put another in its place. I again smoked them toward the hive. When a woman will, she will; and after three hours of work the bees were safely in the hives. I found that they had already started a comb on the fence. I kept close watch over them until evening, when I moved them to their future stands. I wore my veil, but my hands and arms were bare, and yet I had not received a single sting. The next day I removed a frame and placed a frame of brood in each hive. I found later that one colony had a queen which soon began laying. That colony produced over sixty pounds of honey, fall flow. The other soon raised a fine large queen, and they are the strongest colonies I have this spring.

I had quite an interesting chase of hide and seek with them at one time. After going through a hive three times I found the queen, so large that I wondered how I ever missed her.

Another time a bumblebee flew into the hive. How the bees did pounce upon it! They finally drove it out.

While I find the care of bees rather tiresome work, yet it is both interesting and profitable. It is a kind of work, too, which any woman can do if she will.

Hebron, Ohio.

SOME OBSERVATIONS ON THE MANNER IN WHICH BEES USE THEIR STINGS

Is it Natural for Bees to Lose Their Stings After Using Them?

BY WILLIAM BARNES

In December 1st issue, page 778, I noticed observations in regard to bees stinging each other. My own experience has been somewhat different, for I have noticed on two different occasions stings left in workers after being stung. One was during a case of robbing, and the other where a small swarm had entered another hive of bees. There were dozens of bees with the stings left in their thorax and sides. I saw one bee with as many as three stings lodged in it. Time after time have I watched the effects of a fight since, but have failed to find stings left in the dead bees.

The other day (after reading the articles) a very small queenless swarm came and settled on a hive-cover; and as I had a very weak queenless colony I thought I would run the swarm into that hive so as to make them strong enough to be worth a queen if they would unite; but they didn't. They declared war, and fought it out to the bitter end. I watched the results, and examined the dead bees afterward, but failed to find even one bee with a sting sticking to it. I myself have never seen either a queen or drone with a sting lodged in it, but have often seen bees bluffing at stinging drones, but never really saw them do it.

I agree with the editor that it is not necessary for bees to lose their stings when using them against each other. I would also go further and say that I don't think it is in accordance with nature for bees to lose their stings when stinging any thing, as the loss of the sting is more often brought about by some disturbing agency other than the natural instincts of the bees. I should like to have some of you old hardened beekeepers take the time and trouble (yes, you will have some trouble to keep from smashing your little pets), when working among four bees, to give them a good test in regard to stinging.

If you see a bee (or feel it) alight on you and sting, don't move, but just grip what you have hold of and watch, wait, and suffer. You will see some funny antics (on the part of the bee) in her desire to free herself, which she will accomplish about eight times out of ten if you don't molest it in any way, something after the way in which they free themselves after stinging each other, only it will take much longer on account of having much tougher material to work on. Of course I am speaking of bees in their normal state, not those that have been stirred up to the pitch when they are just longing to throw away their lives on account of an unnatural state of things being brought about, such as dropping a frame of bees, overturning their homes, or stirring them up with your foot, etc.

In regard to bees stinging animals, the latter, on being stung, will invariably start to play up, thereby angering the bees into doing their best (or worst) by leaving their stings behind, and then trying to do the trick over again.

One remarkable thing in letting a bee extricate itself from your arm or whatever

part it has got hold of, is that the pain is most severe at first, and keeps on diminishing until it has freed itself, when a slight rub will let you breathe normal again, and you will hardly know that you have been stung.

Strand, N. S. Wales, Australia.

DO BEES LOSE THEIR STINGS WHEN STINGING OTHER BEES?

My experience leads me to say they do not as a rule. I have watched them closely, and apparently they insert only the extreme tips of the sting. Now and again one appears to get the sting too far in; and when they find themselves caught they appear to be panic-stricken, and make frantic efforts to withdraw the sting, with the result that they tear it out of their own bodies. If a bee stings a man, and is let alone, it will sometimes turn round and round; and apparently, by making the hole large enough, will be able in a short time to withdraw the sting; but I never saw them do this when attached to another bee.

MAJOR SHALLARD.

South Woodburn, N. S. Wales, Australia.

BEES DO NOT ALWAYS LOSE THEIR STINGS.

I have just read what Mr. Waugh says, p. 778, Dec. 1. When I kept pure black bees in box hives they always had a lot of drones. Many times I have seen the ground covered with dead drones, and they did not have any stings in them. Since I have been keeping the yellow bees I never see any dead drones. One day last summer I was extracting honey when a large bumblebee got inside of the screen cloth over the window. There were also a lot of bees there. When the bumblebee would get close to one it would try to catch it, but it would always get away. I thought I would have a little fun, so I put the bumblebee in a bunch of bees. They soon covered it. They had a tussle for a few seconds. It soon got loose from all but one, which held on for some time. In a few seconds after the last bee released it it was dead, and not a sting in it.

I wonder how many of the GLEANINGS readers can say that there have been bees at their homes since 1838. The year that my mother was born in (1838), grandfather bought a colony in a box hive. He would always choose a few of the best colonies to keep, and kill the rest with sulphur. He followed this plan till his death in 1879. Mother kept up his plan till I began to care for the bees about 1885. I soon after adopted the plan of robbing them, as it was called. I kept this up until I began to use the frame hive in 1900, and it was the same stock too. Mother never knew what it was to be on a place without bees, as they were brought here the year she was born. She lived in the house that she was born in till her death this year. Since I have been using the frame hive I have changed from blacks to Italians. I have read what the several writers have said about the light and dark colored bees. My experience is that the goldens are not worth much more than house flies; and the Holy Lands are worse than the goldens.

Havana, Ala. J. S. PATTON.

On page 116, Feb. 15, Mr. Elias Fox says, "I have seen a good many queens and thousands of workers killed by being stung. I have yet to see the first bee with a sting lodged in it." Further on he states that he never was able to make a queen sting him, and asks if any one was ever stung by a queen. Now, both those things occurred at the same hive and on the same day in my presence, proving that, out of an infinite number of possibilities, great improbabilities and coincidences may occur.

I had been from home two days attending outyards, leaving an eleven-year-old daughter in charge to cage the clipped queen and let her go again as soon as swarm returned. She reported, among others, that "39" had swarmed both days. This morning I was at home and at work when "39" came out again. As we had been having wet weather for some days prior to the last two, I hardly expected to find the queen out again, for, in addition to their reluctance to come out when they find they can not fly, there was the possibility of her being killed by a virgin; but, contrary to my expectations, she was again found climbing the weeds and attempting to fly. I duly caged her and placed her on the alighting-board. After the return of the swarm I went over to liberate the queen, and noticed that there were no bees on the cage as usual—in fact, only about four or five bees were visible at the entrance. I removed the plug and laid the cage a few inches from these bees. Immediately after she left the cage one sprang at her and buried its sting in her thorax, and she was dead in 15 or 20 seconds—long before the contractions of the sting had ceased.

Looking through the hive I found several ripe cells, none empty, though the mandibles of one young queen were plainly visible cutting its way out. The bees were dark hybrids, and very cross, so I decided to requeen from a nucleus, cutting the cells out. My little girl let the young queen run into her hand, as she had often done before. In

answer to her request to let this young queen live I explained my reasons for not wishing to perpetuate this strain, when she suddenly opened her hand and threw the queen in the grass, saying it had stung her, and pointed to the place where the sting had entered. I sympathized with her, telling her that she had had a unique experience, as queens were not in the habit of stinging any thing but a rival. She remarked that it did not hurt as much as a worker did. B. B. BREWSTER.

Greenridge Marr, Canada.

In reading the Feb. 15th GLEANINGS tonight, page 116, I saw that Elias Fox wants to know if any one was ever stung by a queen bee. I have been. It was at the beginning of my apicultural experience. I had two (virgins) I think, in my left hand. There was war at once. Of course one went for the other. The other avoided the thrust somehow, and I received the sting just below the second joint on the second finger. It hurt severely. The queen that stung the other flew away; but I kept the other one, and I think she mated.

JOHN H. RISING.

Lestershire, N. Y., March 23.

ANOTHER STUNG BY A QUEEN.

Not wishing any more increase when a swarm issued, I hunted out the queen and intended to kill her. I caught one and pinched her head, and she stung me on the finger. This is the first and only time I was ever stung by a queen. She was a full-sized normal queen that had come forth with the swarm.

Kokomo, Ind. ELI ROBERTSON.

GREASEWOOD OR CHICO

BY J. A. GREEN

Wesley Foster is evidently not well informed as to our desert flora, else I have been laboring under a misapprehension for many years. The plant which he illustrates and describes as greasewood on page 50 of GLEANINGS for Jan. 15 is not what is called greasewood here, but chico or "rabbit brush." Greasewood is one of the most common plants of the arid plains of the West, being second, I believe, only to sage brush. Here it is the principal one of the woody shrubs of the desert, giving place a few miles further west to sage brush. It is a straggling, scraggly bush, growing sometimes five or six feet high, though usually not over three. The wood is very hard; and, though it has no real thorns, the tips of the twigs are so sharp that the effect is about the same as though it were thorny. The leaves are narrow and very fleshy. When young, stock browse freely on the green tips; and, though it has not a very high reputation as pasturage, it is, according to analysis, almost as nutritious as alfalfa. The blossoms, which come in early summer, are very inconspicuous, small, and yellowish-brown. The bees work on them very freely for a few days, getting considerable pollen and some honey, which, I believe, is very dark in color, though of good flavor.

Chico blooms late in the fall, resembling goldenrod in this respect as well as in appearance. The bees get quite a little honey from it, deep yellow in color, rather thin and poor in quality. It granulates very quickly, even in the comb; and the section of alfalfa or sweet-clover honey that is finished up on chico is not very much improved thereby, as the chico honey around the lower edges granulates long before the rest of the honey. The worst feature about it, though, for the comb-honey producer, is the intense yellow color of the pollen, which stains the surface of the combs over which the bees travel, besides giving them its smell, and to some extent its flavor. As this smell and flavor are very much like that of the common garden marigold, it does not improve the quality of the section honey which remains on the hive through its flow. On this account, many beekeepers remove the supers from the hive as soon as the chico begins to bloom. After the plant is through blooming, the appearance is very much the same, except that the yellow of the blossoms is changed to white. This white tufted appearance, somewhat like a rabbit's tail, probably accounts for its other common name of "rabbit brush."

Another slight error in this article, not of much importance to a beekeeper, perhaps, though it might be to a homeseeker, is the impression which it gives that peaches are raised by the hundreds of carloads near Fruita. Peaches are not commercially grown to any extent near Fruita, though apples are one of the main crops. The peach district begins fifteen or twenty miles east of Fruita; and it is here that hundreds of tons of the finest peaches grown in the world rotted on the ground last autumn, because, although we have one of the best organized fruit-shipping associations in the world, our system of distribution is so poor that it would not pay to ship these peaches, though thousands of people could not get any peaches to eat because the price was too high. Some time, let us hope, the producer and the consumer may be brought nearer together, to the advantage of both.

Grand Junction, Colo.

Heads of Grain from Different Fields

The Starvation Cure for Foul Brood; the Importance of Treating Promptly

I have a copy of your A B C of Bee Culture for 1905, and I wish to ask you about an article on page 170, second column, about half way down. You say, "When the bees begin to fall from the comb as if from starvation, they were fed." Does this mean that they were closed up in the hive after giving them sheets of foundation for foul-brood treatment?

Would you advise treating for that now, or wait until after the honey-flow? and about what date then would you advise?

I also intend to Italianize. Would you advise me to do this after the honey-flow too? I have five hives of hybrids.

Ashland, Ky., April 21. JOHN M. O'DWYER.

[Referring to the method of curing foul brood as given in the edition of the A B C of Bee Culture which you have, we would say that our idea was to put the bees in a wire-cloth cage or in a hive having a screen top so that the bees can get plenty of air while they are kept away from the combs, and during the period where they are being starved, until they just begin to drop down. If they were shut up in an ordinary hive tight, without any special ventilation other than that given at the entrance, they might suffocate; but nowadays we have a little more modern method of cure by which we do not have to starve the bees at all. We let them loose on frames of foundation. We are sending you under separate cover a copy of our booklet, "Diseases of Bees," and would refer you to the special treatment given for foul brood.

Always in bee diseases of any sort, especially American or European, we would advise immediate treatment. To defer the matter until after the honey-flow would only subject your other colonies to the danger of infection; and it is better to treat when the bees are not inclined to rob than at any other time. If the fruit-bloom is all over with you it might be advisable for you to shake your bees on to frames of foundation, as given in our booklet, along about sundown, or possibly a little later—just late enough so that robber bees would not cause any trouble. The combs themselves then should be thoroughly burned and the ashes buried.

The matter of Italianizing the bees can, perhaps, be deferred to advantage until after the honey-flow.

We should be very glad to have you come and see us at any time. Our apiaries are open to inspection, and beginners are always welcome, or any one else. When you come, make yourself known and we will see that a man takes you over the plant and gives you opportunity to see actual work among the bees. If you can stay long enough we will give you a chance to go out to the outyards where the men are at work.—ED.]

Another Plan for Running for Increase and Extracted Honey Both

I have fifteen hives of bees which I wish to increase to thirty. Twenty I intend to run for extracted honey, and ten for comb. Will the following plan work? When the colonies get quite strong I will give each a second brood-chamber filled with comb, or full sheets of foundation. Every few days I will reverse the brood-chambers, top for bottom. When the honey-flow comes on I will take one brood-chamber filled with the heaviest frames of brood, the queen, and some young bees, and set them on a new stand, leaving the hive on the old stand to raise a new queen. I will then give each a super. I will make the change in the middle of the day when most bees are flying. I have 200 lbs. of sugar on hand. I will feed until I add the second brood-chamber, which will be when the fruit-trees start to bloom, or perhaps before. Would it be advisable to raise some young queens and have them all ready to introduce to the hives I leave on the old stands?

Troy, N. Y., April 14. W. H. ROBERTS.

[Giving a colony an extra brood-chamber filled with empty combs or frames of foundation is correct enough in principle; but there will be no particular advantage in reversing the position of the brood chambers unless you use perforated zinc and put the queen below the zinc with the empty combs or frames of foundation. Without the queen-excluder or perforated zinc, the queen in all probability would stay with her brood-combs whether she was in the bottom story or in the top story. She would gradually, however, work into the other story that had the empty combs or frames of foundation, no matter whether it were below or whether it were on top. A much better plan than reversing the brood-combs, and which would accomplish the object which you are seeking, would be to scatter the brood—that is, after settled warm weather has come on. At the time of giving the extra hive-body on top, remove some of the brood-combs from the lower hive and put them in the upper hive. Fill the spaces in both hives with frames of foundation or combs, placing the empties in alternation with the frames of brood. But be careful not to overdo this. It would be very much better, at the start, to bring up one or two frames of brood in the upper story along with the empty combs and frames of foundation. Place the two frames of brood together. At the beginning of things it is wise not to scatter the brood too much; but when the swarming season begins and the bees feel inclined to swarm and hang out, then we advise alternating a frame of brood with an empty frame of comb or frame of foundation. As a general thing this will entirely check swarming for the time being.

Your scheme of taking away the brood-chamber containing the heaviest frames of brood is correct enough, with this exception: It would be better to use only frames of *sealed* brood. If you effect this removal at the time when the bees are flying the heaviest, and leave plenty of young bees with the hive removed, there will not be much danger of chilling the brood, providing the weather is warm enough at the time. Taking every thing into consideration we think you will find the Alexander method of making increase, recently given in GLEANINGS, will suit you better. See page 314 of GLEANINGS for May 1.

Yes, you could raise young queens and have them all ready to introduce at the time of making the division; but before you raise any queens you better read the article on "Queen-rearing" in our A B C and X Y Z of Bee Culture, or in our booklet, "Modern Queen-rearing."—ED.]

No Pollen-producing Plants in Bloom, a Result of the Frost

In returning to my apiary from the north last week I found every thing at a standstill; but little brood-rearing was going on, and the bees were weaker in numbers than ever before in my experience at this time of the year. I soon saw, from inspection, that they were entirely destitute of pollen, and not a speck was coming in. The bees were heavy from well-filled combs of honey which was fed to them last fall. I never had such an experience before, as pollen is always abundant here, even when honey is absent. I never had to feed flour before in my experience of more than thirty years. The bees went at the rye flour like hogs to swill. They were more ravenous over it than when robbing. My one hundred colonies took in four quarts each day, for a week, and stored but little of it, and the weather, too, was very cold for this season of the year.

I now see that the pollen flowers are absent, and

the pollen trees and shrubs are killed from the late heavy frosts which visited us in all parts of California. The willows and cottonwoods will, no doubt, bloom later, as only the limbs are dead. Other shrubs seem to be completely killed.

Lonoak, Cal. C. K. ERCANBRACK.

Equipment for Production of Comb Honey

Dr. C. C. Miller:—After nine years' experience with extracted honey I think I'd like to go back to the production of comb honey. Now, if you were to start over with a new outfit, what super and style of section would you use? How would you arrange the inside of the super? What kind of furniture? Would you have two extracting combs, one on each outside? I had thought I'd like section-holders with top-bars, then I would put the sections into the section-holders and put the foundation in afterward (full sheets). I have done so on a small scale, and in this way no foundation is ever broken loose. Does Fifty Years among the Bees give the whys and wherefores?

Mr. Townsend speaks as though he likes the T supers with two extracting combs, one on each outside. He too figures the cost of production and tries to cut it down.

Battle Creek, Mich., April 27. WM. C. BROWN.

[Dr. Miller, to whom the above questions were addressed, replies:]

I would use the T super, and it would likely be with a ten-frame hive. Besides the T-tins, the only furniture would be plain wooden separators and little sticks to crowd between the tops of the sections to keep sections square and prevent bee-glue. These sticks are about ¼-inch by 3-32. I think I would at least do some experimenting with an extracting-comb at each side of the super. The sections would be 4¼ x 4¼ x 1⅞ beeway, filled with full sheets of foundation, top and bottom starters.

You will find twenty pages or so devoted to the subject in "Fifty Years among the Bees."

Marengo, Ill. C. C. MILLER.

Bee Paralysis or Poison?

We are experiencing a trouble here with our bees that we have never had before in this section that I know of, which is this: The bees are dying right along. It seems to be the old bees that are affected, and one would think it was caused by spraying were it not for the fact that there has been no spraying at all in this section. The brood is in fine shape, and the young bees seem to come out all right; yet the colonies do not build up; in fact, many of them are going back rapidly, yet practically all colonies are affected, and all yards that I know of are affected about alike, and I know the conditions over quite a bit of territory. We have never had any disease here at all, to my knowledge, before the present trouble.

Some think it paralysis; but I do not think it is. I have A B C and X Y Z of Bee Culture, and have made a study of bees more or less for the last twelve years, and must say that I am puzzled; but I am inclined to think that it is caused by gathering honey-dew from the excessive amount that we have had here all the spring on pine-trees. It has been in such quantities that one could rub his hand on the grass under the trees and get them coated with the substance. We have had much cool weather and especially nights, many days being so cool that the bees would hardly get any flight at all; and if I can see any difference I think we have more dead bees after the coolest weather. The ground in front of the hives is covered with dead bees; and in some instances where there is grass it is even killed by the dead bees. The combs are full (in all colonies that are at all strong) of this honey-dew, and the queens are laying finely. It is now 9 A. M., and I have stopped writing long enough to run out and examine the fronts of the hives, and find fewer dead and dying bees than on last Tuesday morning when it had been cooler than now. For the last day or so, say three days, is has been fairly warm, almost hot. Many of the bees are carried out alive, but sick, and hop around on the ground, sometimes living over night in this sick condition. They look swollen and slick, while the majority are dead when carried out.

Rock Mount, Va., May 2. B. L. FISHER.

[Notwithstanding what you say to the contrary, we should be very strongly inclined to believe that what is killing your bees is paralysis. Your preliminary description rather points in that direction, and the last sentence of the next to the last paragraph seems to leave no doubt of it in our minds. No form of honey-dew, nor any honey, in fact, that we have ever known any thing about, will cause the kind of malady you describe. Your bees might possibly have been poisoned; but we hardly think that is probable in view of the last sentence referred to in the next to the last paragraph, especially where you say "they look swollen and slick." This is a very unmistakable symptom of bee-paralysis, and, taken in connection with all the rest you say, makes it very clear to us that there is nothing else the matter with your bees.

If you will follow the directions given by Mr. O. O. Poppleton, who has had as large an experience with it as any one, as given under "Bee Paralysis," in the A B C and X Y Z of Bee Culture, you will be doing about all that you can do for them, because we do not know of any easy and simple cure. One thing we would suggest, we would isolate all the sick colonies and locate them in a yard by themselves. We would change the queen in all the colonies, and then practice the treatment recommended by Mr. Poppleton.—ED.]

Why do Swarms Cluster Before Leaving?

On p. 502, Aug. 15, 1912, you give my theory as to the possible reason "why swarms cluster." I wish you would again put it before your readers, asking those who might desire to test it to report results.

We have by the "wing-clipping method" a decided aid in handling primary swarms; but it is the after-swarms that not only can and do make us climb, but that sometimes beat us completely; and it wouldn't hurt a bit if one more slat could be added to the knowledge our older veterans have given us on handling this problem.

One day after the issuing of a swarm from a hive wherein all eggs had been hatched and all brood beyond the possibility of making into queens, I destroyed all the queen-cells and allowed the swarm with a queen to hang as long as the bees would. After remaining clustered for an hour and a quarter they quickly broke; and before I got to the second fence they were ahead of me, though I was doing my best to keep up. At a distance of about 50 rods they had abruptly held up, and I was under them again; but instead of being enmassed as they had been, they were scattered; and while I stood out in front of their line of advance for a time, on getting back to the apiary I found the swarm nicely hived at the stand from which it had come.

Sterling, Ill., May 6. A. B. ANTHONY.

Bees that Would Not go Out of the Pound Packages

In a shipment of some half-pound lots of bees I received from Alabama there was one cage that had been placed over the brood-frames in a super with one end removed so they could escape to the brood-frames. All had escaped from cages in 24 hours; but in this one they would move back and forth to brood-frames for several days. So, upon examination I had discovered they had started to build comb in the little cage in which they came. I also may add

that the queens came introduced, and that this one had started to lay eggs in cells of this comb. The question is, Where did they get the comb? for they could not get out of the hive in all this time, but had brood-frames with comb and honey in the hive. I have never heard nor known that bees could work over old wax, so should be pleased to have this point made clear.

Downer's Grove, Ill., May 6. J. MEY.

[Bees can build comb while in confinement, for, in fact, they make their wax out of honey. As they were supposed to be supplied with it in your case they could easily build comb; but it is a very unusual procedure. It is not at all surprising that the bees refused to go down on the brood-combs, because, if there was a little bit of comb in the cage that contained a few eggs, the queen and the bees, you will find, would stay where that piece was. They would gradually, however, work down in the hive, because the capacity of the cage would become too limited in a short time.—ED.]

Cottonseed Meal Eagerly Taken by Bees

On age 272, April 15, Mr. Kos Hurst suggests that Mrs. H. Millard, Feb. 15, page 131, use cottonseed meal as a substitute for pollen instead of albuminized sugar or rye meal. Mr. Hurst says that he has never read where cottonseed meal was fed to bees as a substitute for pollen. Bees will carry in cottonseed meal if they can get it early in the spring before there are any flowers or enough flowers to produce the amount of pollen necessary. I have seen bees working so thick in hoppers that contained dry mash for chickens that the chickens refused to eat except early in the morning and late in the afternoon when the bees were not flying. The mash contained a good deal of cottonseed meal, and the bees worked until they had gotten nearly all of the meal out of the mash.

The best way to feed the bees the cottonseed meal is to mix it with wheat bran, half and half. Some of the bees are sure to be drowned if the meal is fed to them just as it is. After the meal and bran are mixed, pour it into a flat box and mound it up. The mash should be stirred and mounded up every day, as the bees work it down level when they get out the meal.

If the weather is favorable, the bees will soon carry in enough to fill the brood-chamber. A little honey smeared around the sides of the vessel that contains the mash will soon attract the bees. Brood-rearing seems to be carried on as easily with cottonseed meal as with pollen gathered from flowers. I am sure that cottonseed meal can be used to great advantage in localities where pollen is scarce in the early spring.

Here at Beeville cottonseed meal costs $1.50 per 100-pound sacks. A hundred pounds of meal added to bran as needed should supply at least 200 colonies of bees with pollen for at least one month.

Beeville, Texas, May 12. C. E. ENGLE.

What to do with Sections Containing Pollen when Grading

How many cells of pollen can pass in fancy sections? How many in No. 1? I use excluders, and yet I have lots of sections with pollen. I use the Danzenbaker system of comb-honey production. Heretofore I have sold such honey to farmers at 8 cents for fancy, but it does not pay.

New Boston, Mo. F. H. THIELE.

[We submitted this to Mr. F. Rauchfuss, manager of the Colorado Honey-producers' Association, and he replies:]

The question of pollen in sections has never been taken into consideration when framing our rules, because in all of the experience that we have had during the last fifteen years there have been probably one dozen sections found with a few cells of pollen in. For this reason it is a negligible quantity, and not to be considered; but if it were in a location where it happens often, as it seems to in Mr. Thiele's location, we would consider such as not fit to go into any thing but the No. 2 grade, no matter how well they may be finished and filled.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,
Denver, Colo., May 12. F. RAUCHFUSS.

Sheep Not Necessary to Make White Clover Yield

I agree with Dr. C. C. Miller that it is not necessary for sheep to pasture in white clover in order that it may be more productive. In fact, cattle are better, as they do not eat the crown out of the plant as sheep will do. Poor farming has hurt the land in this locality so far as producing white clover is concerned. The short rotation, advocated by the experiment station at Wooster, for bringing back fertility to our soil, is detrimental to white clover unless farmers *sow* it; and that is what they should have been doing for years. A chemical analysis of white clover shows that it is richer in protein than almost any legume which is grown for forage.

Bloomingdale, Ohio. W. B. RALSTON.

A Correction

In describing my arrangement to get bees out of the extracting-supers, p. 230, April 1, you used a cut which I think does not make it plain. I make the box 18 or 20 inches high. This box could be tight on the sides and ends, *except* that the side furthest from the operator should have an opening the full length of the box, and about three inches wide in order to give air or ventilation to the bees after they slide down the chute below.

Lakeville, Ind. C. A. BUNCH.

Removing the Queen

Can as much comb honey be secured from colonies where the queen is removed as by the shaken-swarm plan?

Honeoye Falls, N. Y., Feb. 24. GILBERT BROS.

[Caging the queen to prevent swarming, when running for the production of comb honey, seems to take the life out of a colony. The bees attempt to rear queen-cells; and if a single cell is missed, a swarm will come out very soon after the virgin hatches. The methods of shaking swarms, we should say, would be much more satisfactory than dequeening; and it would be our opinion that more honey could be secured.—ED.]

The Number of Bees to the Pound

Will you inform me of the number of bees in a quart or a pound? If a pound, what is the space they occupy?

Canton, Mass., April 21. E. C. BRITTON.

[There are about 3200 bees in a quart and about 4500 bees on the average in a pound. This number, however, will vary according as to whether the bees are filled with nectar or not. A bee can carry half its own weight in honey and possibly a little more at times. If, therefore, the bees are filled with honey a proper reduction should be made from the figures already given.—ED.]

Death of Mélvin Isbell

I should like to have a brief notice in GLEANINGS of the death of my husband, Melvin Isbell, which occurred May 3. He was a veteran beekeeper, keeping bees since a man of 20. He also took GLEANINGS, since its first beginning, and had nearly every one in good condition. He was 63. I think he kept the most bees of any one in Chenango County.

Norwich, N. Y. MRS. MELVIN ISBELL.

Our Homes

A. I. ROOT

A soft answer turneth away wrath; but grievous words stir up anger.—PROV. 15:1.

But I say unto you, that ye resist not evil; but whosoever shall smite thee on the right cheek, turn to him the other also.—MATT. 5:39.

Think not that I am come to send peace on earth: I came not to send peace, but a sword.—MATT. 10:34.

It is now springtime, and everybody is making garden more or less. I do not know but I might say likewise that *almost* everybody is keeping chickens "more or less." Well, the chickens are all right and the gardening is all right. Both are commendable. But they do not work well together. If the mother hen is penned up and the little chicks are allowed to run through the garden, they will, at least for a time, do good and not harm; but if you do not look out, the first you know, even small chicks will get into the seed-beds and not only dig them up but make things look sadly untidy. I have sometimes thought that plants become discouraged and give up, just as human beings do. After a chicken has snipped off the foliage and scratched the dirt off from some of the tiny rootlets, the plant will of a sudden lose its vigor and energy. Well, what I have in mind this morning, while we are getting a gentle May shower, is the matter of having one neighbor have a choice garden and the adjoining neighbor some chickens, and trouble comes. Not all of the chicken folks and garden folks are professing Christians; and some of them that *are* seem to forget their religion when the chickens get across the boundary line and dig up the plants. I believe it is getting to be more and more the fashion to dispense with fences; and I always rejoice to see this. We of the United States, especially the Christian people, have no money to waste on needless fences any more than the great powers of the earth have millions to waste on needless "men-of-war." May God hasten the day when men shall beat their swords into plowshares and their spears into pruning-hooks. Of course the chicken man (or chicken woman) must have fences. But the neat tidy fences made of poultry-netting are not at all offensive nor out of harmony with beautiful surroundings. In towns where neighbors are close by on all sides, I would recommend fowls that do not fly over fences, or having coarse cheap netting overhead also. Let us remember what my old friend Aunt Margaret said when her chickens had a habit of getting into our front yard. She said in substance, if not in exact words, "If chickens make my neighbors to offend, I will keep no chickens while the world standeth." And she offered then and there to sell me all the chickens if I wanted them. As I did not want them, she disposed of them soon after. In looking back at the transaction I feel sorry I did not show *my* Christianity by offering her a poultry-netting fence, and telling her to *keep* her chickens, for she was a poor woman and they were conducive to her health in getting outdoors as well as earning a scanty livelihood. Oh dear me! I am afraid I have many times in the past forgotten *my* religion and forgotten that cloak of humility that we who are followers of the Lamb should wear day and night. I keep thinking of my talk about the boys and the automobile in last issue. I once thanked a good Methodist brother for his excellent sermon, and told him it had done me a lot of good already. He surprised me by replying something like this: "Mr. Root, that sermon has done *me* good too; and I firmly believe that it always does every one good who preaches in his own way the gospel of Christ Jesus."

There is a little more I did not tell about that automobile transaction. After the boys had blocked my way in going to the prayer-meeting, on my return home I went to the postoffice to get my evening mail. Well, those boys I have spoken of have a fashion of hanging around the postoffice. I wonder if that is true of your postoffice, say in the evening, between eight and nine o'clock. While I was in getting the mail out of the drawer I heard an automobile making an awful racket as if it were going to tear itself to pieces. I rushed out; and both levers of my machine were turned up to the highest speed, and the engine was going like a young tornado. As quickly as possible I threw the levers back. Two men stood close by, talking as indifferently as if that were the way automobiles always do. I asked if they could tell me who started my machine in that way. One of them said a boy ran up and pulled the levers, and then ran back in the darkness. Then the men went on talking. I had been sorely vexed an hour before, and now my patience and Christian spirit were most severely tried. I was not only vexed with the boys who took such a liberty, but with the two men who seemed so indifferent. In fact, I was a good deal stirred up, and I do not know but I almost felt "ugly" toward everybody. I thought the two men might have stopped the boy who pushed the levers back when they saw how the engine was "racing."

Now, it looks from the above as if I were complaining about Bradentown or Bradentown men and boys, especially the two I have mentioned; but I am not. The fault was all my own. I had stupidly, if not deliberately, brought all that kind of trouble on myself. I had forgotten my Bible, my religion, and the beautiful texts at the head of this talk. Now, friends, before getting up and remonstrating, listen to me a little. If those boys had been in the habit of meddling with everybody's property, and annoying other people as they annoyed me, it would have been a different matter indeed. Public safety and well-being would have demanded, without question, that they should be taken in hand by the authorities of the town. There is a vast difference between a quarrel—that is, between two persons—and one between criminals and righteous laws. Let me illustrate. At that prayer-meeting I have mentioned, neighbor Rood spoke of a couple of farmers who had a quarrel, went to law, and kept it up, year after year, over a line fence. They wasted several times what the strip of land in contest was worth. Finally one of them sold out. A Christian man took his place. As soon as the neighbors told him about the jangle that had made hard feelings and stirred up the neighborhood for years past, he went over to see his new neighbor. After the quarrelsome man had stated the case the new neighbor said, "Look here, neighbor A. I am a man of peace. Friendly relations with all my neighbors, especially those whose lots adjoin my own, are worth more to me than the little strip of land. I am willing you should put the fence entirely over on my side *ten feet* if that will be satisfactory."

What do you suppose happened? Why, that same person who had been for years so tenacious for *every inch* of ground justly his due—the man who had *lain awake nights* in thinking it over—replied something as follows: "Why, my good friend, if that is the sort of man *you* are, I do not propose to be outdone in liberality, or, as you call it, the Christian spirit. Put it ten feet over on *my* line, and I will not say a word."

I do not need to add that a pleasant adjustment of that long-time quarrel and lawsuit was soon brought about. You see this thing is contagious; and, thank the Lord, a *good* spirit is contagious as well as a bad one.

Here in our town of Medina a man bought a house, and in moving it on to his lot the limbs of some shade-trees were in the way. But the owner of the trees forbade him mutilating so much as a single twig. The house stood still in the middle of the street, and both parties consulted attorneys. The one who owned the trees neglected his work, and stood out in the street to prevent damage to his property. His wife and children joined in, and the neighbors took sides, etc. As one of the parties was in my employ I felt sure I could induce him to be reasonable. What do you think? I could not budge him an inch. He said if it took every copper he was worth he was going to have his rights. He had always been a quiet, peaceable man before. I never heard of his having trouble with anybody. I can not remember now just how it was settled. If I am correct, I think the pastors of two churches helped bring about a pleasant adjustment. And, by the way, it occurs to me right here that, when you get into a place like that, your pastor will be better (and *cheaper*) counsel than a lawyer unless, indeed, you engage a Christian lawyer; and may the Lord be praised that in these latter days there are getting to be quite a number of such lawyers. I hope they are getting *pay* for giving Christian counsel as well as the other kind.

Now, friends, what about our last text? How could the dear Savior who gave us the beatitudes counsel the use of the sword? Why, I struck upon the point exactly when I asked neighbor Rood if the boys were meddling with machines belonging to others besides myself. If the trouble that comes up is between you and your neighbor, never mind the loss of a few cents or a little strip of land. Do almost any thing for peace, and head off ugly feelings. But if somebody is making *counterfeit money,* transgressing the law, and injuring the community at large, by all *means* have him arrested. If he is conducting a saloon, and enticing the boys (and oftentimes the girls), his work is even worse than that of the counterfeiter, for he is not only robbing humanity but damaging both soul and body. Enforce the law to its utmost limit. Let there be no compromise until he gives up the business. Sometimes Satan tempts us to think that letting a man go on with his meanness is encouraging him to keep on doing so; but the petty quarrels and misunderstandings seldom come under this head. There are many people (perhaps I am one of them—yes, I am sure I am, for I have illustrated it) who are liberal and kind, but praiseworthy in perhaps every respect, but who, when they once get stirred up, get into Satan's toils and show the worst kind of disposition. They can not bear "having the fur rubbed up the wrong way," as it is sometimes expressed. The Bible is ringing with injunctions to beware of the evil one

who goes about seeking to stir up mischief and strife; and yet we forget—yes, even the best of us at times—and let the wrong spirit gain a footing. Instead of answering back when sorely tempted, let us remember who it was that said, "Pray for them that despitefully use you, and unto him that smiteth thee on one cheek, turn to him the other also." We are not only to keep quiet and steady under the fire of untrue and unjust words, but we are to be cool and steady, even if it should come to blows; for the same dear Savior says, "Your reward shall be great, and ye shall be called the children of the Highest." Again, will it *answer* to put these precepts into practice in *business?* Let us remember that beautiful beatitude that says, "Blessed are the meek, for they shall inherit the earth." After the meek have inherited the earth, what is there going to be left for the greedy, the unscrupulous, and the quarrelsome? And, finally, if you think a Christian spirit will be a losing business in the end, read the promise away back in the Old Testament: "Five of you shall chase a hundred, and a hundred of you shall put ten thousand to flight."

Health Notes

THE AMERICAN HOOKWORM, ETC.

A good friend of GLEANINGS calls my attention to the fact that, since I have been spending so much of my time in Florida, it might be well to say something about the hookworm in the South. The *Rural New-Yorker* for Dec. 14, 1912, gives a very full description of this pest of humanity, and I wish it were possible to give it entire in GLEANINGS. When I first commenced spending my winters in Florida, seven or eight year ago, Mrs. Root and I were both shocked to find that out in the rural districts at some of the homes there were no outbuildings of any sort. At one place, where there was quite a family of young people, including young ladies, I was told the "men folks" were expected to go out among the bushes on the *north* side of the road, while the south side was understood to belong exclusively to the women folks. I am glad to tell you, however, that Florida has been coming forward by leaps and bounds in sanitary matters and sanitary precautions. The hotels and dwellings—at least to a great extent—have as convenient and up-to-date outbuildings or closets as we have here in the North. Well, now, to get back to our subject.

The hookworm, if permitted to live, will annoy and oftentimes even destroy innocent boys and girls because of this very backwoods (and I might almost say heathen) fashion of having no outbuildings. Just think of a country schoolhouse with boys and girls going everywhere without any such sanitary conveniences as I have been speaking of! Permit me to say right here, if the disease or parasite exists in the part of Florida where we are located, I have not heard of it. Manatee Co. has never had a *saloon;* and, God helping us, it never will have. But what have saloons to do with the hookworm? Just this: Where there is poverty, suffering, and want, the women and children will have to go without the comforts of life. The eggs of these terrible "animals" are laid inside the body, and pass out with the excrement. If they get into the damp warm soil they will get on to the bare feet of the urchin and get through the skin just as the redbugs and sticktight fleas do. Once inside, they make their way quickly to the intestines, where they are veritable bloodsuckers. Where the children play in the dirt, these eggs or minute worms get into the mouth through the food or drink. The children are stunted in growth and dwarfed in intellect from a lack of blood—blood-sucked by a hookworm in the raw intestines. Thanks to science and medicine, however, they are easily banished. Thymol in the hands of a competent physician puts an end to them; and a dose of Epsom salts cleanses the patient from the dead worms and eggs. Now, am I not right in saying that, when we banish the saloons, we shall do away with the hookworm largely? and when all the public places, and even every little home, is taught up-to-date sanitation, the hookworm will disappear.

Just one thing more: The *Rural New-Yorker* tells us that the hookworm is a near relative to the gape-worm in chickens, the colic-worm of horses, and the kidney-worm of hogs, and the dangerous trichina, which, several years ago, was so common in pork, especially ham.

STARVING AMERICA.

The above is the title of a brand-new book put out during this year by A. W. McCann, who has been in close touch with Prof. H. W. Wiley in regard to his crusade against impure food and food preserved by means of injurious chemicals. I presume our good friend T. B. Terry will smile when he sees the book I am going to send him;

for although the author starts out from an entirely different direction he ends up very close to where Terry has been working and pleading. He says in the preface that, while many books and much thought have been given in regard to the *vegetable* and *animal* kingdoms for food, but little has been said or touched on in regard to the need of our physical bodies from the *mineral* kingdom. The book from beginning to end (it contains 270 pages) is a vigorous protest against white bread, white flour, rice with the most valuable element about it left out, and the rejection in other ways of the very things that God intended we should use for food. Aside from his strong indorsement of whole wheat (every bit of the wheat) he says we need also to eat the skin of our baked potatoes; and in order to get the minerals that our bodies are often starving for, we should try to have with every meal a large proportion of "uncooked" food. Of course he urges a diet largely of fruit. While he does not enjoin or recommend a vegetarian diet exclusively, he says a little meat for the growing child once a week will be sufficient, and perhaps twice a week for adults. Let me make a couple of extracts:

Every time we boil a potato and throw away the water in which it is boiled we throw away potassium.

The despised Italian fruit-vender at the street corner is a noble American institution. By his display of greens and fruits he constantly tempts mineral-starved bodies to eat these raw and life-giving carriers of mineral salts. No one knows what a blessing the Italian has brought into the hurried, unthinking, ignorant land through his fruit-stand.

By the way, I have often assured Mrs. Root that, when we soak the potatoes over night, and throw away the water, we are wasting the best part of them. I have all my life preferred potatoes baked whole; and the most delicious part of a baked potato, when properly baked, is, for me, the skin. In the same way, I want my sweet potatoes baked without peeling, and also my *dasheens*. Before another year has passed I think a large lot of us will be made happy with dasheens. Where I have good nice apples, I have for years been eating them core and all. The seeds seem to me to supply something that nature calls for.

The book enumerates the minerals that make up the composition of the whole human body. But the author assures us we can not get these at the *drugstores*. They must come from the use of the fruits and vegetables that God prepared for us and intended us to use. The book is going to be a heavy blow at a large class of our manufacturers of food products. They not only throw away the valuable part of these products, but substitute benzoate of soda and a lot of other injurious drugs as preservatives. The manufacturers of these prepared foods, and especially the injurious prepared foods, are making so much money in the business that they were able to throw out Dr. Wiley, even when he was proving himself to be a world-wide benefactor to the whole human race.

The book is now published by The Geo. H. Doran Co., 38 West 32d St., New York. At the present writing we are not able to give the price; but I wish that every man, woman, and child could read it.

Below is what my good friend W. P. Root had prepared for a review before I had got hold of it.

AN EPOCH-MAKING BOOK.

One of the most important contributions to the subject of health is a book called "Starving America," written by Alfred W. McCann, Member Vigilance Committee of the Associated Advertising Clubs of Amer- It tells why fifteen million children physically defective; why 250,000 children die annually in this country; why we pay one-fifth as much for drugs as for foods; why 130,000 surgeons and doctors work day and night, etc. The book has 29 chapters among which may be mentioned "what minerals do;" "white-bread starvation;" "candy, ice-cream, and other foods;" "procession of little white caskets;" "meating insufficient."

It is out of the question to give here even a summary of the writer's startling exposures of the deleterious articles sold to children; and the wonder is that more of them do not die instead of stopping at 250,000 a year. The author makes a fearful arraignment of many common articles of food, some of which are not tabooed by even the pure-food law of 1906. He says that Easter eggs are made of stearic acid, carpenter's glue, glucose, coal-tar dye, and soapstone.

Licorice pellets are made of lampblack, carpenter's glue, and glucose.

Baked beans are coated with shellac.

Easter rabbits and marshmallows are made of carpenter's glue, glucose, coal-tar dyes, and ethereal flavors.

Easter chicks are made of carpenter's glue, glucose, coal-tar dyes, and ethereal flavorings.

Candy marbles are made of coal-tar dyes, glucose, ethereal flavoring, and soapstone.

As an adulterant, glucose seems to be in universal use; and, in fact, one would infer that groceries and drugs are all sold from the same shelf.

In regard to food, the book is about

equally divided between "thou shalt not eat thereof" and "thou mayest freely eat;" and in regard to the correctness of the writer's conclusions there can be no doubt.

Beekeepers will be pleased to note in this book the high estimate the author seems to attach to the use of honey. On page 181 he says:

"Honey, sap-maple syrup, and old-fashioned molasses, with unrefined cane sugar, contain the tissue salts of the cane, tree, and flower, the iron and calcium that nature put there. Such forms of sweets are natural and good. Candy prepared from them is good candy for the child."

On page 184 he recommends for breakfast, among other things, "whole-wheat bread, sweet butter, and honey." On page 186 he prescribes the same for dinner. On page 221 honey is given as a prominent ingredient in making ice-cream.

If the recommendations of Mr. McCann were to be adopted by all the people of this nation it would result in a complete revolution in our mode of life, and a still greater one in our mode of gastronomic suicide.

See also the following from the publishers:

The interest aroused by Mr. McCann's exposure of adulterated foods and their disastrous effect on the civilized races promises to find expression in reform legislation in the very near future. Mr. McCann has been personally interviewed by Governor Sulzer, of New York State. Miss Kate Barnard, of the Charity Commission of the State Board of Oklahoma, has already prepared a scheme of child nutrition which is shortly to become a part of the State scheme of education. There is every sign that the notice attracted by this book is only now at its beginning. Those who are nearest in touch with Mr. McCann and his propaganda prophesy that his book will work a revolution in child culture, and that his principles will have to be incorporated in future courses of medical training.

New York, Feb. 17. GEORGE H. DORAN CO.

Later.—Here is what Terry writes after receiving the book:

Dear Mr. Root:—The book, Starving America, arrived safely, and I thank you very much for it. It is really quite wonderful how nearly his teachings agree with what I have been writing for past ten years. He gives the inside of adulterations, food preservatives, etc., to an extent that makes one shudder—and all done to make more money for a few by robbing the many of money, health, and even life. Thank God that there are a few things which I can eat safely, such as baked potatoes, home-ground wheat, apples, oranges, lemons, bananas, berries, and nuts. We have been buying seedless raisins, and I believe they are all right. But last time I was in the city I saw "bleached" ones offered for sale, and people buying them because they looked so nice and white. But no sulphur-treated goods for me.

Many of the statements in the book are startling, such as that all New Orleans molasses contains sulphurous acid. What a great work there is yet for such as you and I, who really want to be helpful to the people! Most kindly yours,

Hudson, O., May 8. T. B. TERRY.

POISONING THE BABIES, NOT ONLY AFTER THEY ARE BORN, BUT BEFORE THEY ARE BORN.

We may rejoice that the whole wide world is waking up in regard to the matter of looking after the health and comfort of our children, especially the babies; and one can well contemplate with amazement and astonishment the indifference with which our nation and other nations treat the matter of permitting cigarettes to be manufactured and sold. Read the following from a good friend away off in New Zealand:

Dear Friend A. I. Root:—The attached clipping from the Dunedin *Evening Star* will be of especial interest to you when I inform you that Sir Robert Stout is New Zealand's Lord Chief Justice—a strong advocate of "no license," and a Prohibitionist—one who, before he occupied his present position, filled many important political positions.

Mosgiel, Otago, N. Z. WM. CHAS. BROWN.

"What number of cigarettes do you think were sold in New Zealand last year?" asked Sir Robert Stout at the Brotherhood recently (says the Taranaki *Daily News*). Answering his own question, he gave the quantity at 794 millions. Estimating the population of the Dominion at a million, and not including all the women and children and the men who do not smoke, one could, he added, get an idea of the prevalence of the habit among smokers. "Look," he remarked, "at the enormous waste, independent of health, and yet it is totally unnecessary. It is affecting the power of our young people. Why, in America, in many of the best companies, if they find their men smoking cigarettes they tell them they are not required. They do not look upon it on sentimental grounds, but because of efficiency. Cigarette-smoking tends to make our boys inefficient, and it is the efficient race that is to survive." Continuing, Sir Robert said that, happily, the cigarette habit was not yet prevalent among womenfolk of the Dominion. Instancing the bad effect it would have on them, he pointed out that in certain parts of Belgium and France the death rate of infants was enormous. It was due to the fact that their mothers smoke cigarettes while nursing their babies. The doctors had proved the cause of the mortality by finding the narcotic in the blood of those who had died. Concluding, the speaker pointed a warning finger to the fact that, if the habit were not checked, the race would become inefficient. New Zealand could talk about its climate and what not; but it would be unable to fight the battle of nations if the habit were allowed to hold sway.

"THE HIGH COST OF LIVING," ETC.

I have read T. B. Terry's book on how to keep well and live long. It is certainly very interesting, very practical, and, if heeded by all, would solve the question of high-priced living. If we all lived as Terry claims he does, every thing in the eating line would be a drug on the market, with the possible exception of fruit. Terry does not eat in a whole day as much as almost any boy ten years old will eat at one meal. Most kids want three meals a day too.

We are a nation of 80 million people, and if we should cut out 160 million meals of one pound each, it would mean the bankruptcy of our nation.

The high cost of living is all a bugbear any way. It is nearly one-third less now than it was in 1870. We have no ground for "kicking" if we spend our money foolishly. If a man can not make a good

living, and lay by a nice little snug sum for old age or a rainy day at this very time he lacks all the true principles of frugality.

It is only the penny wise and pound foolish in our herd that suffer at this time. Their habits seem to be quite popular. They "kick" because milk is selling for eight cents per quart, which is below cost, but never "kick" at the price of poor whisky at ten cents per drink for a dozen or more friends at one time. I never could see why our saloons have more *generous* friends than our good milkmen or grocers who sell close and live frugally for a life time, and then do not die rich. It's the saloonkeepers who die rich. Most inconsistent is man, any way; so, what are we going to do about it?

Brewster, Wash., Dec. 14. V. W. CLOUGH.

The following from T. B. Terry, in the *Practical Farmer,* I heartily endorse, especially that part about the average city "specialist." Our readers may recall that I wasted quite a few dollars on "treatments."

HOW WOMEN CAN SAVE MANY DOLLARS.

Women pay out much money for doctors and drugs. We want to help our readers to save this to buy more of the comforts of life with. A dollar saved is as good as one earned. One of our readers, a woman of 48, has had several spells of ill health. She went to a "well-known specialist" in a city for advice. He told her that she was suffering from auto-intoxication. In plain English this means that she is self-poisoned; that there is an excessive amount of poisons in her system, coming from wrong habits of life. He gave this sister medicine, and wanted her to remain with him for four months at considerable expense for "treatment." She at once wrote to us to get our advice about this. He told her not to eat any "fruits, sweet potatoes, corn, and lots of other good things that I am fond of. He said they brought on my troubles. My tongue is coated, bowels sluggish, and bad taste in mouth in the morning. Do you advise me to stop taking this man's medicine?" Well, what the doctor said about your condition is probably correct. But his plan of "treatment" would transfer considerable money from your pocket to his, and do you no good that you can not get at home. Yes, I advise you to throw the medicine out where even the chickens can not get it. By simply changing your wrong habits of life, nature will cure you at no expense, practically, and you can stay cured. Your tongue will then be clean, breath sweet, and you can get up in the morning feeling splendidly. The first thing to do is to eat, drink, and exercise so as to cause bowels to move loosely two or three times a day. It will take some time, but keep right at it until you do. Pardon me; but the straight truth is that the bad taste in mouth and coated tongue come largely from filth in the blood reabsorbed from constipated bowels. Nature sends this filth into one's mouth, where it can be tasted to give plain notice that the main sewer of the body is clogged and needs immediate attention. Having this matter right, be careful to furnish your body with proper air, water, sleep, and food. Then, in a word, you will probably gain by eating less, especially of protein-furnishing foods, and chewing more.

High-pressure Gardening

SEED POTATOES; HOW TO GET THEM, READY TO PLANT, BY OCT. 1, DOWN IN FLORIDA.

I have already mentioned the difficulty of finding seed potatoes ready to plant when we first reach our Florida home, say along the last of October. So far there does not seem to be any of the seedsmen or anybody else down in Florida who is prepared to furnish such potatoes, notwithstanding the best time to grow potatoes in Florida—that is, in order to have new ones about the first of the year—is in October and November. A good friend of mine whose former home was in this (Medina) county tells me how he manages it. If I am correct, he usually makes a pretty good thing of it in growing new potatoes when nobody else has them. He sends us the following in regard to his manner of doing it.

Mr. Root:—I see in GLEANINGS for April 15 that you have had trouble in raising early potatoes in Florida. For several years I have had potatoes raised for me in Medina, and shipped the first of September, so I would get them about Sept. 15, take them out under a tree or other shady place, spread them out not over two deep, cover them with grass or old sacks, throw a few bucketfuls of water on them, look at them every day or two to see that they do not get dry. They will sprout. I plant them about Oct. 1, and have new potatoes for Christmas. Potatoes should be planted in Ohio so as to have them get ripe in August; and when dug they should be spread out in a cool place to dry, then put in barrels and shipped.

West Palm Beach, Fla., April 28. J. N. PARKER.

SWEET-CLOVER GROWING IN FLORIDA NOT A DIFFICULT MATTER AFTER ALL.

Mr. A. I. Root:—I am now a subscriber to GLEANINGS, and have been, off and on, for a number of years. I am interested in all its contents, especially your department; and, contrary to the usual custom, as soon as received I begin its reading at the back to see what A. I. Root has to say. I am always interested in the different topics you discuss—particularly sweet clover. This has interested me from the beginning. In the fall of 1910 I came to Florida, and located at Taft, Orange Co., seven miles south of Orlando. The same fall I sent to your firm for a pound of white-sweet-clover seed and the "Clover Book." Both seed and book came to hand promptly. The seed was not opened until last December (one year later), when my good wife planted two 30-foot rows of it. The seed was drilled very much thicker than necessary, using for fertilizer Canada hard-wood ashes and "cowchips." It came up very thick, and made a growth of 2½ to 3 feet in height. Had less seed been used it would have grown taller. It matured the seed; and where it grew the ground is now thickly set in young clover. Last week (December 26) we drilled us a 100-foot row of the Root seed, and it is already coming up nicely. We have had this seed on hand 2½ years. It speaks well for its vitality.

It may be of interest to you to state that we live in the flattest kind of "flat woods"—raw scrub palmetto, and on this kind of land this clover grew.

I sent quite a bundle of the clover to Mr. M. K. Van Duzor, who was then editor of the *Messenger* at Orlando, Fla.; also a little write-up on sweet clover.

I am prompted to trespass upon your time with this statement, owing to your recent reference to sweet clover in a late issue of GLEANINGS, saying it had failed to grow at your Bradentown home; and also a statement recently by another writer,

that sweet clover would not mature seed the first year of growth.

With the compliments of the season to yourself and *sweet clover*, may you both "live long and prosper."

Taft, Fla., Dec. 13. I. A. WORLEY.

My friend, we are exceedingly obliged to you; but I can hardly understand how it is that on soil so near by, and so similar, we have had so many failures. When I first came here I made a little piece of ground very rich, and planted the alfalfa and sweet clover side by side. The alfalfa came up and grew quite rank; but the sweet clover, although it did come up grew only a few inches high and never amounted to any thing. Since that, I and my neighbors around here have tried sweet clover year after year, and we have not been able to get a stand even after the seed germinates. A neighbor of mine tried liming the soil very heavily, but with no better results.

The writer of the above letter enclosed the following newspaper clipping in regard to sweet clover in Kansas:

The discovery has lately been made that a plant which grows in and around Kansas City with the rankness of a weed can be turned into vast wealth. The plant is sweet clover, which, heretofore, has been classified with scores of volunteer plants as fit for no good purpose. On vacant lots, in parkings, in back yards, this plant grows luxuriously in Kansas City, and perhaps is the most familiar of volunteer vegetation. Lately stockmen have discovered that it is "practically as good as alfalfa" as a food for stock; that it is drouth proof, and resists extreme cold; and ranchmen and farmers in western Kansas are beginning to plant it and reap great profits from it. They are paying $10 a bushel for the seed in western Kansas now.

Recently E. G. Finnup, of Garden City, Kan., thrashed nine hundred bushels of the seed, and is getting from $8 to $10 a blushel for it.

Mr. Finnup recently said that sweet clover is just as good as alfalfa for live stock; that it makes an earlier pasture and a later pasture than alfalfa, and does not bloat the cattle. It stands the dry weather and the colder weather better than alfalfa; and where there is ground that is worn out it is the best and cheapest known fertilizer to renew the soil. The best results, Mr. Finnup said, came from fall sowing.

The Kansas State Agricultural College grew four or five acres of sweet clover this year on the poorest land on the college farm, and it yielded three tons to the acre. This was as large a yield as that made by alfalfa grown on better soil. The agricultural college endorses the statement that sweet clover is more indigenous to Kansas soil than alfalfa, and that it is one of the best of fertilizers. The college is encouraging its growth in western Kansas.

It is said that the principal objection to sweet clover as a food for stock is that it has a bitter taste; but when cattle cultivate a taste for it they begin to relish it. In planting, the preparation of the ground is similar to that for alfalfa. About forty pounds to the acre is the amount usually sown.

The plant is an annual, or, in part, a biennial—it may start one year and seed the second, when it dies. In waste places it seeds itself, and the plant is renewed from year to year.

Many agricultural journals are discussing the newly discovered sweet clover, and take the position that a new contribution has been made to agriculture.

Some of these journals say that experiments have shown that there are objections to sweet clover as a hog pasture. The roots of the plant appear to be especially palatable to hogs, and their tendency is to "root up" the sweet clover. Ringing helps considerably in obviating this trouble.

Many of the experts are encouraged to believe that very soon this plant, which heretofore has been scorned as a weed, may develop into a source of great farm wealth in Kansas and States where forage crops are of big value.—*Kansas City Star.*

THAT LUTHER BURBANK(?) "SOCIETY."

We clip the following from the *Rural New-Yorker:*

The Luther Burbank Society is still working on that devoted band of "100 life members." Nearly every day we hear from people who have been solicited. The thing that nearly lands these friends is the thought that they are to be associated through life with such people as Helen Gould and others of the rich and great. There is a list of notables who have already enlisted for life under the Burbank banner. One of our people saw the name of John Wanamaker in this list, so he wrote for further information. This is what he received in reply:

I regret to say that I do not know any thing about the Luther Burbank Society in question, except what is printed, and that I was elected an Honorary Life Member, which did not require any dues to be paid, and therefore I have not paid any. Very truly, JOHN WANAMAKER.

It is a good chance that all the other life members except Mr. Luther Burbank would tell much the same story. Our only comment is that it seems a shame that public men will permit their reputations to be cut up and used as "sucker bait." These invitations are going to a class of people who really think they can help their business materially by associating as "life members" with these great men!

IS IT TRUE THAT A "CLUCKING HEN" IS JUST RIGHT FOR THE TABLE?

The San Francisco *Examiner* has an article to this effect. The writer says a clucking hen is always fat—in fact, that she weighs a pound more than at any other time, because she puts on flesh to prepare for the long siege of sitting. It has also been suggested that she will not lay any more eggs for perhaps two or three weeks. Now, I somewhat question whether the above is true; and I wish our poultry friends would give their opinion in regard to the matter. My experience seems to have been that a clucking hen is generally a pretty good layer. If she is broken up promptly she will soon be laying again, and so on. I have two Rhode Island Reds in my Florida home that commenced to lay when the chicks were about three weeks old. One of them never *sat* at all. I gave her a lot of chicks from the incubator the very morning she began to cluck. She took excellent care of her chicks, and before they were quite three weeks old she would excuse(?) herself and go off and lay in a stolen nest. She did this for quite a spell, still taking excel-

lent care of the chicks. This article I have mentioned says, "There is really no secret why a clucking hen is better food than any other sort;" but I must confess that I do not like the idea of killing a laying hen unless you have proved by trap nest or in some other way that she is a poor layer. If she wants to sit after she has laid, say, fifteen or twenty eggs, we consider it is nothing particularly against her.

Temperance

WHO SHOULD BE LYNCHED—THE BOY OR THE SALOON-KEEPER?

Of course, I do not believe in *lynching* anybody; but if the craze for lynching is to keep on in spite of us, suppose the lynchers should take a notion into their crazy heads to lynch the saloon-keeper. I suppose one reason why they do not do it is because it is the saloon-keepers who furnish the whisky that fires the crowd with a crazy zeal to make them *believe* they are defending *virtue*. Read the following, which is clipped from *Collier's Weekly;* and in submitting it I want to say, may the Lord be praised that Colliers have turned their heavy artillery saloonward.

THE MAN WHO MADE MONEY.

In Salem, Ill., on March 15, the most horrible crime known to humanity was committed by an eighteen-year-old boy, Sullens, against the little fourteen-year-old daughter of a well-known judge. In court Sullens was asked: "Where did you go after you left the girl?" He testified:

"I went over to the coal-mine. I wanted to get sobered up. I had drank about a pint of whisky and eight bottles of beer the night before. I got the liquor at Lakin's. I was in a car when the deputy sheriff found me."

He was saved from lynching only by the appeal of a minister who diverted the attention of the crowd to the blind tigers and bootleggers which flourish in the town.

Mr. A. Thrasher, superintendent of schools, joined the ministers and other citizens in the protests against what they described as the real cause of the crime. "That Sullens boy was in school five years ago, and was as fine a boy as there was in town," said Mr. Thrasher. "Booze is responsible for his present state."

Who are the brewers and whisky-makers who stimulated this crime and made money out of it by supplying liquor to a dealer in a prohibition town? They are probably highly respectable citizens of Peoria, where no social odium attends the making of money by the stimulation of vice.

SELLING LIQUOR IN DRY TERRITORY.

May the Lord be praised that there is "somethin' doin'." I have a colored man in my employ in Florida who has a fashion of saying, "Nothin' doin'" when our plans do not materialize—say, when the wind does not blow and the chickens happen to be out of water, etc. Well, the brewers and liquor-dealers have been enabled by their wiles and millions to thwart our plans for prohibition, so that again and again comes the sad report, "nothin' doin'" in the temperance crusade. Let me now give you a little extract from the Wheeling *Advance* of May 2:

Wheeling liquor firms have been exceedingly active in endeavoring to annul the Rose county-option law in Ohio counties. Some have tried it and escaped the law; but at least one firm must send its check to Guernsey County, Ohio, for $400 and costs if they desire to get one of their agents out of jail in order that he may continue to ply his illicit profession for their advantage.

John Frak is the man who became an unwilling guest of Sheriff Berry, at Cambridge. Frak was caught at what is known as the Wolhonding mine, near Buffalo, and from all appearances was doing a considerable business. Sheriff Berry was accompanied by Deputy Sheriff Heskett, and they lost no time in tossing John into durance vile. John was later taken before Justice L. S. Reasoner; and when prosecuting attorney of Guernsey County, B. F. Enos, presented an affidavit charging soliciting and collecting money for intoxicating liquor in dry territory Frak broke down. His plea of guilty brought him the maximum fine under the law.

This same periodical tells us of the tremendous work that is being done by Billy Sunday, Dr. Lyon, W. J. Bryan, and other great and good men enrolled in "the army of the Lord." We are also told of a carload of beer shipped from Cincinnati to Kansas that fell into federal hands. By the way, that same Wheeling *Advance* seems to be a "live wire" in the temperance work. Its motto is, "Make prohibition prohibit, for the people's good."

"WE ARE MARCHING ON," SURE.

We clip the following from the *American Advance:*

Every day new omens of progress beckon us on. They are freighted with meaning for our cause, and they deserve our attention.

On Jan. 20th, this year, the *Chicago American,* the great Hearst daily, said editorially:

"There will never be another whisky advertisement in these columns. This paper has never advocated any thing that it believed to be detrimental to the public welfare because that it carried with it pecuniary reward. The most insidious form of influence in newspapers is through their advertising columns. . . It was forced to take this position to escape from the incongruity of opposing the whisky traffic in its editorial columns, while increasing the sales by means of its advertising columns."

I see by the January 15th GLEANINGS a person wanted your journal stopped because you had too much to say about tobacco and liquor, as he got a great deal of pleasure out of both. Well, we want you to send us your paper just because we can read the paper and not see any thing about the tobacco and liquor business except something against it.

Gilroy, Cal., Jan. 22. F. H. EVANS.